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TITLE: Supplier Quality Assurance and Performance System

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HISTORY OF REVISION			
Rev.	Description	Pages Affected	Approval Date
	All previous revisions are on file.		
AJ	Para 2.0 – Changed "The Supplier Performance Rating System is calculated quarterly…" to "calculated monthly". Complete revision of Para. 4.2.3 Was: Critical process suppliers include providers of machining, calibration services, as well as any other processes usually performed in-house by Arrowhead Products (e.g. welding, penetrant inspection). Is: Critical Suppliers are determined based on dollars spent annually, commodity, and business impact. Critical Suppliers are documented on form ARPRO 1131. The form is reviewed on an annual basis for accuracy. Revised Para. 4.3.1.2 Complete revision of Critical Suppliers audit requirements. Added Para. 4.3.1.3.4: Product Audits for the FAA Repair Station shall be performed by the Repair Station Accountable Manager or Delegate using ARPRO 1138. Revised Para. 4.3.1.3.1 to exclude the reference to the Supplier Audit Schedule. Complete revision of Para. 5.1 Was: Performance monitoring shall only apply to suppliers who have annual total purchase order values of $5,000 or more. This monitoring will be conducted quarterly by the Quality Department and shall review the supplier's quality and delivery performance for a 12 month rolling period Is: Performance monitoring will be calculated monthly and apply to all active suppliers. Performance scorecards (Quality & Delivery) will be sent to Critical Suppliers (ARPRO 1131) monthly based on a 12 month rolling period. Revised Para. 5.2.1.2 Revised … "reporting cycles"… to quarters Revised Para. 8.2 – …"Delivery and shall only be maintained for critical suppliers." Revised Para. 12.0 Supplier Performance Reporting Was: Performance reports will be generated for active suppliers whose annual purchase order totals are $5000 or more. Suppliers will be notified of their performance rating in both Quality and Delivery, and recovery plans or Corrective Action Plans will be initiated as required. Is: Performance reports will be generated monthly for critical suppliers. Suppliers will be notified of their performance rating in both Quality and Delivery, and recovery plans or Corrective Action Plans will be initiated as required.	3 4 5 6 6 7 7 12	10/1/14
AK	Added to Scope Para. 2.0 For service provider suppliers, performance shall be monitored based on internal audit and surveillances, witness activities, and documentation reviews of services provided either at AP or at the supplier's facility. Added Reference document ARPRO 967 to Para. 3.0 Added Para. 4.2.5 Service providers are considered calibration, and testing suppliers that provide services for tools, gages, ovens, product examination and/or testing Added Para. 4.3.1 Witness or performing of Testing, Calibrations, or Inspections.	3 4 4	10-30-2014

HISTORY OF REVISION

Rev.	Description	Pages Affected	Approval Date
AK	Added Para. 4.3.1.2 Suppliers Audits Service Providers, calibration and testing suppliers shall be scheduled for a Process Audit based upon supplier performance assessed during surveillance activities, internal audits and documentation reviews. Added Para. 4.3.1.2.6 Additional specialized checklist(s) can be used in addition to the process audit checklist ARPRO 1022 to document audits and surveillance activities of service providers. Added Para. 4.4.5 (7) Non compliance to purchase order requirements during surveillance reviews (testing, inspection or calibration) Added Para. 5.1.3 Service providers will be monitored in accordance with paragraph 4.3.1.2. to ensure continued compliance to the purchase order flow down requirements and successfully pass all required witness and surveillance activities imposed. Added verbiage to Para. 5.2.1.1 - If deemed necessary based on impact to production at Arrowhead Products or significant underperformance (15% under threshold) of either Quality or Delivery a corrective action may be issued. Added 7.8 Calibration Services 7.8.1Tools, gages, ovens, and additional manufacturing equipment requiring calibration shall be controlled by a purchasing requisition and/or MRP system that states the quality requirements. All purchase orders/blanket orders shall be reviewed by a Quality Representative and the process owner (Heat Treat Manufacturing Engineer, NDT Level III, etc.) prior to the order being placed. 7.8.2 Quality clauses will be flowed down in accordance with ARPRO 967. Revised Para. 9.1 … audit requirements/findings Added Para. 9.2 If a corrective action request is not responded to, is deemed to be ineffective, is a repetitive finding the Supplier will be evaluated to the Corrective Action Board and/or the Supplier Quality Engineer to determine continued approval status. Added to Para. 12.0 Supplier Performance Reporting Performance reports for service providers will be generated quarterly. Suppliers will be notified of any nonconformance and recovery plans or Corrective Action Plans will be initiated as required.	5 6 7 7 7 11 12 12 12	10-30-14
AL	Added Para. 9.1 Financial Risk Assessment Complete Re-write of para. 4.3 thru 6.9	12 5-9	11-8-16
AM	Revised entire procedure to align with new revision of AS9100D. Removed the following sections: – Purchase Order Review – Inspection of Purchased Materials – Inspection of Raw Materials-Composites – Inspection of Mechanical Parts-Castings, Forgings, Standard & Machined/Formed Parts to Print – Outside Processes – Calibration Services	All	08-08-17
AN	Revise paragraph 7.1 to include “ARPRO 967, are referenced on the purchase order and/or Offsite Work Order (OWO)”.	11	09-012017

1.0 PURPOSE

To define the process for the evaluation, selection, monitoring of performance, and re-evaluation of suppliers (external providers).

2.0 SCOPE

This procedure applies to the suppliers that provide materials and/or services for production and/or inspection, or deliverable contract items.

3.0 REFERENCE DOCUMENTS

ARPRO 967 PO Appendix-Supplier Product Assurance Requirements
QA-P-03 Internal Audit
QA-P-04 Corrective Action
QA-P-06 Risk Management
SC-P-20 Purchasing
SC-P-21 Prevention of Counterfeit and Suspect Product

4.0 PROCEDURE

4.1 REQUIREMENTS

4.1.1 Only suppliers active and approved on the Arrowhead Products Approved Supplier List will be used for the procurement of goods, materials, products, or services related to the manufacture, production, or inspection of deliverable hardware.

4.1.2 Requirements applicable to the purchase orders are flowed down to the supplier through the Arrowhead Products Purchase Order and associated flow down documentation.

4.1.3 Inquiries regarding approved sources will be referred to Quality Assurance for resolution.

4.1.4 Arrowhead shall have the ultimate responsibility for all suppliers as well as any sub-tier suppliers that perform work on Arrowhead products. Correction of nonconformance resulting from sub-tier special processes will be coordinated with the first-tier supplier unless otherwise deemed necessary by Arrowhead Products.

4.2 SUPPLIER CATEGORIZATION

4.2.1 NEW SUPPLIERS

4.2.1.1 When notified of the need to add a new supplier to the Approved Supplier List, Quality Assurance shall evaluate the Supplier's qualifications and/or ability to meet Arrowhead Products' quality requirements and determine when/if an onsite audit shall be required.

4.2.1.2 If an immediate purchase is necessary, a "Request for Authorization to Use", form ARPRO1024, shall be completed and require the approval of Quality Assurance Management or Management Designee prior to order placement.

4.2.2 SPECIAL PROCESS SUPPLIERS

4.2.2.1 Special process suppliers may include providers of thermal treatment, welding or brazing, surface treatment or coating, inspection and test (NDT) services, electrical discharge machining (EDM) and precision cleaning.

4.2.3 CRITICAL SUPPLIERS

4.2.3.1 Critical Suppliers are determined based on:

a) dollars spent;
b) commodity;
c) sole source;
d) business impact.

4.2.3.2 Critical Suppliers are documented on form ARPRO 1131.

4.2.4 TOOLING SUPPLIERS

Tooling Suppliers include providers of fabrication of tools and other process services pertaining to tooling used for products.

4.2.5 SERVICE PROVIDER SUPPLIERS

Service providers are considered calibration and testing suppliers that provide services for tools, gages, ovens, product examination/validation, and/or testing.

4.2.6 PRODUCTION SUPPLIERS

Production Suppliers are considered build to print suppliers, distributors, machine houses, and raw material suppliers.

4.3 SUPPLIER EVALUATIONS

4.3.1 METHOD OF EVALUATION

Evaluation of a Supplier may be performed by one or more of the following methods, as determined by Quality Assurance:

• PROCESS AUDIT	Quality Audit Checklist, ARPRO 1022
• PRODUCT AUDIT	Quality Audit Checklist, ARPRO 1108
• QUESTIONNAIRE	Supplier Questionnaire, ARPRO 1000
• LIMITED APPROVAL	Request for Authorization to Use, ARPRO1024
• SUPPLIER CAPACITY ASSESSMENT	ARPRO 1083
• SUPPLIER OBSOLESCENCE SURVEY	ARPRO 1128
• QUALITY PERFORMANCE	Supplier Performance Percentage, Witness or performing of Testing, Calibrations, or Inspections

4.3.2 SUPPLIER QUESTIONNAIRE

4.3.2.1 Suppliers may be approved after evaluation and approval of the Supplier Questionnaire, ARPRO 1000.

4.3.2.2 On-site supplier audits performed on ARPRO 1022 and/or ARPRO 1108 can be completed in lieu of the Supplier Questionnaire, ARPRO 1000.

4.3.3 **SUP-PLIER AUDITS**

4.3.3.1 Critical Suppliers' audit frequency will be based on their risk assessment score that is calculated on an annual basis.

4.3.3.2 Quality Assurance and Supply Chain shall determine the Supplier Audit Schedule for the Critical Suppliers based on the annual risk assessment scores. This shall occur in the first quarter of every calendar year. The audit schedule will identify the required audit participants as well as the type of audit to be performed (Process Audit/Product Audit).

4.3.3.3 Completed Product and/or Process Audit checklists and supporting documentation, completed Supplier Questionnaires and other related information will be maintained in the Supplier Files by the Supplier Quality Focal.

4.3.4 **PROCESS /PRODUCT AUDITS**

4.3.4.1 Quality Assurance arranges for the process/product audits to be conducted.

4.3.4.2 Quality Assurance documents the audit results on the Quality Audit Checklist, ARPRO 1022, ARPRO 1108, and/or other audit records deemed acceptable.

4.3.4.3 Quality Assurance conducts a debriefing meeting with the supplier's management to review the results of the audit, as applicable.

4.3.4.4 The FAA Repair Station supplier audits are performed by the Repair Station personnel using ARPRO 1138.

4.3.4.5 Supplier audits may be outsourced to third party qualified auditors. Results of outsourced audits may be documented on the third party auditors' documentation of choice.

4.3.4.5.1 Quality Assurance is responsible for monitoring the performance of the third party auditors in accordance with QA-P-03 Internal Audit.

4.4 **SUPPLIER APPROVAL**

4.4.1 Quality Assurance and Supply Chain are responsible for the approval status decision, changes of the approval status, and conditions for a controlled use of suppliers depending on their approval status.

4.5 **APPROVAL STATUS**

4.5.1 Approval status of the supplier shall be identified on the Approved Supplier List (ASL) as follows:

a) Full Approval;
b) Limited Approval (based on evaluation of delivered product);
c) Customer Approved/Directed Source;
d) Disapproved.

4.5.2 **APPROVED SUPPLIER LIST (ASL)**

4.5.2.1 The Approved Supplier List (ASL) is a database of approved suppliers that is available for impacted personnel, which includes approval status and the scope of approval.

4.5.2.2 Quality Assurance maintains the Approved Supplier List/database.

4.5.3 **FULL APPROVAL**

4.5.3.1 Suppliers will remain at full approval when they have demonstrated satisfactory performance based upon their performance rating, on-site audit results, and/or questionnaire results.

4.5.4 **LIMITED APPROVAL**

4.5.4.1 Limited Approval is granted to a prospective supplier for which there has been no previous performance history.

4.5.4.2 Limited Approval is granted to suppliers when justification is provided based on their ability to meet subcontract requirements through a Supplier Questionnaire or an On-Site Audit.

4.5.4.3 Once the supplier's capability/performance are deemed acceptable and historical performance data is available, they will be granted full approval.

4.5.5 **CUSTOMER APPROVED/DIRECTED SOURCE**

4.5.5.1 Customer Approved/Directed Source will be placed on Arrowhead Products' Approved Supplier Listing (ASL) upon confirmation of customer approval of the supplier via customer portal or formal letter approval.

4.5.5.2 Arrowhead Products is responsible for the conformity of sources defined by the customer.

4.5.6 **DISAPPROVED**

4.5.6.1 A disapproval status may be allocated to suppliers in the following instances:

a) Failure to maintain the required quality rating based on approval/rejection data;
b) Failure to maintain the required delivery rating based upon PO line item due dates;
c) Customer Alerts/Bulletins concerning the quality of the supplier’s product (i.e., loss of accreditations such as Nadcap approval, AS9100 certification);
d) Failure to address corrective actions;
e) Discontinue or failure to maintain product or service supporting Arrowhead Products, including product obsolescence;
f) No longer in business.

4.5.6.2 Disapproved suppliers are locked out of ERP by Quality Assurance, which will prevent future purchase orders from being generated.

4.5.6.3 The supplier status shall only be granted Limited Approval status if a “Request for Authorization to Use”, ARPRO1024, is approved by Quality Assurance.

4.5.7 DEACTIVATED SUPPLIERS

4.5.7.1 Supply Chain may select to deactivate suppliers that are no longer needed or stopped supporting certain part numbers.

4.5.7.2 Supply Chain may request Quality Assurance to re-activate a supplier.

4.5.7.3 Quality Assurance may re-qualify the supplier as follows:

a) Requalification in accordance with the requirements defined in this procedures;
b) Approval of "Request for Authorization to Use" ARPRO1024 submitted by Purchasing based on the reason(s) listed for the reactivation of the deactivated supplier.

5.0 SUPPLIER PERFORMANCE MONITORING (EVALUATION AND REEVALUATION)

5.1 Supply Chain and/or Quality Assurance conduct ongoing evaluations to ensure the suppliers' conformity to continued adherence to requirements.

5.2 Quality Assurance monitors the quality and delivery performance of suppliers considered critical to the business and reports the results to Supply Chain and internally.

5.3 On a monthly basis, Quality Assurance and/or Supply Chain analyze the critical suppliers' quality and delivery performance data

5.4 If the supplier does not meet defined purchasing requirements (quality and/or delivery), Quality Assurance and/or Supply Chain review the supplier performance data such as:

a) Performance history;
b) Previous corrective actions;
c) Criticality of product supplied;
d) Nature of nonconformance.

5.5 Quality Assurance and/or Supply Chain assess the supplier's situation. Depending on the risk of using the supplier and its impact, Supply Chain may consider the following, as applicable:

a) Coordinating with the supplier to correct the issue;
b) Issuing a formal corrective action request based on the severity of the issue;
c) Scheduling onsite visit, evaluation, and/or audit.

5.6 When the supplier issued corrective actions are not effective and/or achieved in a timely manner, and after all attempts have failed to improve the supplier's performance, the issue is escalated to management (e.g., Supply Chain, Quality Assurance, Operations, top management) for further action.

5.7 If management decides to disapprove the supplier, Quality Assurance disapproves the supplier in ERP.

6.0 PREVENTION OF COUNTERFEIT AND SUSPECT PRODUCT

6.1 Supply Chain ensures prevention of counterfeit and suspect product per requirements defined in SC-P-21 Prevention of Counterfeit and Suspect Product.

7.0 SUPPLIER FLOW DOWN

7.1 Supplier Product Assurance Requirements, ARPRO 967, are referenced on the purchase order and/or Offsite Work Order (OWO). Requirements are available to the suppliers via Internet access and can be found at the Arrowhead Products website, http://www.arrowheadproducts.net.

8.0 RISK ASSESSMENT/ANALYSIS

8.1 For new programs, supplier risks will be assessed by Supply Chain and Engineering. Refer to QA-P-06 Risk Management.

8.2 Suppliers are assessed based on their 12-month rolling performance rating for Quality and Delivery and shall only be maintained for critical suppliers. In addition, periodic reviews are conducted of supplier capacity assessments (ARPRO1083) and supplier obsolescence surveys (ARPRO1128). These are electronic forms and are submitted on an as-needed basis.

8.3 Complete or partial on site audits shall be prompted at the supplier based on the subjects identified in the engineering design and development process, results of the performance ratings and other issues that arise within the manufacturing stages that cause concerns of risk.

9.0 FINANCIAL RISK ASSESSMENT

9.1 All approved suppliers shall be monitored through Dun & Bradstreet database with ongoing alerts and shall be categorized based on the level of risk.

1 = No/low financial risk
2 = Medium financial rating
3 = High financial risk
4 = Immediate/very high financial risks

9.2 If suppliers fall in category 3 and 4 additional monitoring is required and ongoing reviews will be scheduled with the supplier's upper management and or the Chief Financial Officer (**CFO**).

10.0 CORRECTIVE ACTION

10.1 When a Supplier fails to meet the requirements of the purchase order, audit requirements, the quality performance rating, or performance assessments, a corrective action request may be issued in accordance with QA-P-04 Corrective Action.

11.0 RECORDS

11.1 Records generated under this procedure are controlled in accordance with QA-P-02 Control of Records.