



**Supplier Quality Assurance Manual  
(SQAM001)**

**Revision A – Revision Date: 24 Septemeber 2021**

**Approved by:**

**NWI-Nashville Quality Assurance Manager**

Rusty Smith

**This Document will be flowed to NWI-Nashville Supply base via P.O flow-down**

## ***The NWI Supply Chain Vision:***

*To establish a dynamic, global, supply network that maximizes the strength of NWI, provides common processes and integrated systems, identifies aerospace suppliers and capitalizes on their skills with the objective of exceeding our Customer's' expectations for first time quality, on time delivery and long term cost management.*

NWI is emerging as a leader in the production of aerospace components and product integration to the aerospace industry. As we continue to grow, NWI is striving to become the supplier of choice for aerospace prime contractors. We also endeavor to be the customer of choice for our aerospace suppliers.

As NWI is continually on the move to improve this position, our industry demands a total commitment to continual quality improvement and process performance from both NWI and our aerospace suppliers.

### **Table of Contents**

1.	Section One - This Document is effective for the following NWI sites	4
2.	Section Two – NWI Supplier Quality Assurance Manual (SQAM001)	5
3.	Section Three - Supplier System Requirements, Approvals and Evaluations	6
4.	Section Four - Supplier Responsibilities	11
5.	Section Five - Shipping & Deliverable Documentation Requirements	21
6.	Section Six - Supplier First Article Inspection Requirements	27
7.	Section Seven – Suppliers Sub-tier Controls	31
8.	Section Eight - Supplier Measurement	33
9.	Section Nine - Preferred Performer Program (P <sup>3</sup> )	37
10.	Section Ten - Corrective Action and Continual Improvement	38
11.	Section Eleven -Supplier Performance Improvement Program (SPIP)	39
12.	Section Twelve - References	39

This document is considered a contractual obligation of NWI suppliers, when referenced in part or in whole by NWI Purchase Orders for all contract deliverable production, overhaul, and modification programs including; tooling, ground support equipment and repairstations.



**1. Section One - This Document is effective for the following NWI Companies**

NWI Aerostructures  
1431 Vultee Blvd.  
Nashville, TN 37217

## **2. Section Two - NWI Supplier Quality Assurance Manual (SQAM001)**

### **2.1. Overview**

- 2.1.1. It is the responsibility of the NWI Supply Chain Management Team to establish and develop aerospace suppliers with demonstrated capabilities, to consistently evaluate the aerospace business climate and protect itself and its customer's by securing reliable material sources. We are also required to ensure our suppliers consistently meet NWI specified requirements for quality and delivery, maximize the supplier's total value while also aggressively minimizing all associated procurement costs. NWI is committed to eliminating occurrences of nonconforming product and processes as well as their related cost and schedule impact to our customers. NWI recognizes that communication is vitally important to the support and success of our customers. In order to achieve these objectives, NWI expects no less than this same level of commitment to product and service excellence and continual improvement from its aerospace suppliers. As expected by our customers, NWI requires its aerospace supplier's to recognize their responsibility for the quality of the products that they and their sub-tier supplier's provide. To meet this commitment, it is necessary that NWI aerospace suppliers develop, execute, and sustain key business, operational and process management practices that demonstrate that they are capable of effectively meeting and exceeding the contractual obligations to the satisfaction of NWI and our Customer's.
- 2.1.2. NWI Suppliers must comply with this document and specific NWI Quality Requirements during the life of procurement. The Table 1 matrix (see para. 3.5), contains keys to determining the applicability of NWI Management System Requirements to each individual procurement, and shall be used by the supplier as part of the supplier's quality planning function to ensure compliance with NWI requirements.
- 2.1.3. In addition to the requirements contained in this document, the supplier shall comply with the Quality Requirements noted in the Contract Terms & Conditions (T&C's) referenced on NWI Purchase Orders. Contact your NWI Purchasing Representative if further clarification is required.
- 2.1.4. NWI, its customers or Government Regulatory Agencies have the right of entry into the supplier's facility. The supplier shall also include right of entry provisions in any subcontract. These provisions shall allow the supplier, NWI, NWI's Customers or Government Regulatory Agencies, to examine and verify the quality of work, records, processes and material at any place, including the plant of the subcontractor.
- 2.1.5. Any correspondence or data submitted to NWI in support of the requirements contained herein are to be in English. Documented measurements will be derived using equipment that measures in the original native engineering unit of measure (i.e. engineering dimensions in English must be measured with equipment capable of measuring in inches. Mathematical conversions are not allowed). Requests for deviations to this requirement must be submitted to the NWI Procurement Representative. Requests will contain a Measurement Plan detailing the documented process(es) that will identify the affected characteristics, ensure calculations are accurate, no rounding is utilized that could compromise engineering tolerances and individuals are adequately trained.

### **2.2. Utilizing the NWI Supplier Quality Assurance Manual (SQAM001)**

- 2.2.1. The NWI Supplier Quality Assurance Manual (SQAM001) contains prescribed methods for interaction between NWI, and its aerospace suppliers.

- 2.2.2. With reference to this document, the term "NWI" or "applicable NWI AERO-Nashville" is defined as an individual NWI Company location.
- 2.2.3. This manual is applicable to NWI as listed in Section One of this document unless otherwise agreed upon by the applicable NWI Company and the supplier.
- 2.2.4. These methods shall be adhered to at all times to ensure the conformance of products and services are met to specified requirements.
- 2.2.5. The manual will be maintained via flow-down with the PO submitted to NWI suppliers. Printed documents are considered to be uncontrolled. Verify current version of this document before use. This document is maintained by NWI Supplier Quality Management.

### **2.3. Table of Contents**

- 2.3.1. The Table of Contents in this document will assist users in easily navigating to the Sections within the text of this manual.

### **2.4. Individual NWI Company Quality Requirements**

- 2.4.1. NWI maintains Company specific Quality Requirements. Individual NWI Company requirements shall meet or exceed the Customer Requirements.
- 2.4.2.** Sections of this manual that direct suppliers to specifically review NWI Company purchase order or Quality Requirements are indicated in "**Bold Red**".

### **2.5. Information Requests**

- 2.5.1.** Supplier requests for information and clarification shall be submitted utilizing the Supplier Information Request form. This form can be requested by contacting the appropriate NWI Procurement Representative.

## **3. Section Three - Supplier System Requirements, Approvals and Evaluations**

### **3.1. Overview**

- 3.1.1. NWI maintains an Approved Supplier Listing as a basis for identifying direct part / material, processing and critical service suppliers who meet the standards necessary to fulfill its procurement needs.

### **3.2. Supplier Quality Management System Requirements**

- 3.2.1. Aerospace suppliers shall implement and maintain a Quality Management System in accordance with the respective Quality System standards listed in Table 1 (see para. 3.5) of this document, as appropriate for the type of product being delivered to NWI. All costs associated with obtaining and maintaining appropriate Quality System approvals shall be borne by the supplier.
  - 3.2.1.1. Supplier shall ensure that all personnel involved and performing work in support of a NWI Purchase Order be made aware of:
    - 3.2.1.1.1. their contribution to product or service conformity;
    - 3.2.1.1.2. their contribution to product safety;
    - 3.2.1.1.3. the importance of ethical behavior.

**Note: This requirement can be coordinated with transition to AS9100D certification.**

- 3.2.2. The Quality Management Systems identified in Table 1, shall be the Quality System standards used in determining eligibility for the NWI Approved Suppliers Listing (ASL).
- 3.2.3. NWI will recognize AS/EN/SJAC9100, AS/EN/SJAC9110, AS/EN/SJAC9120/AS9003(referred to generically as 9XXX) Quality System Certifications issued (less AS9003) only by an accredited Certification/Registration Body (CRB). The accredited 9XXX CRB listing (less AS9003) can be found on the SAE web page: [sae.org/oasis](http://sae.org/oasis). Suppliers that cannot or will not meet this requirement shall contact their NWI Procurement Representative.
- 3.2.4. Initial and subsequent periodic review of a supplier's Quality Management System may be performed at the option of NWI. Objective evidence of supplier's compliance, either by submittal of requested evidence, or evidence of "Other Party" evaluation, may be acceptable for the purpose of re-survey to NWI.
  - 3.2.4.1. **NOTE:** "Other Party" - A registrar that has their accreditation body participate in the IAQG Quality System Certification oversight process. An "Other Party" Quality System Certification would be one issued by an accredited registrar that participates in the aerospace industry's IAQG oversight process. As required, the supplier shall provide NWI with right of access to perform appropriate assessments, surveys and reviews.
- 3.2.5. Suppliers shall provide NWI access to their IAQG OASIS information upon request. IAQG OASIS information access may include but is not limited to the supplier's 9XXX audit record and/or copies of a supplier's past audit reports. Suppliers that do not provide this access or copies may be subject to additional NWI approval audits or disqualification as an NWI supplier. Access to the supplier's IAQG OASIS records or previous audit reports does not necessarily preclude the requirement for a NWI approval audit.
- 3.2.6. Once added to the NWI Approved Supplier Listing, the supplier must continue to demonstrate an acceptable level of performance as noted in Section 8 in order to remain eligible for new business and to maintain their approved status.
- 3.2.7. Supplier name changes, changes in ownership, facility changes or changes in senior Quality management may subject the supplier's Quality System to reevaluation by NWI. The supplier shall notify the NWI within 48 business hours of the occurrence. Submission shall be accomplished by contacting the appropriate NWI Procurement Representative with an official letter detailing the change/changes.

### **3.3. New Suppliers**

- 3.3.1. An NWI Supplier Profile is initiated by NWI for all prospective suppliers. The profile is forwarded to the prospective supplier by NWI. Unsolicited requests from suppliers will not be reviewed.
- 3.3.2. After completion of the Supplier Profile, the submittal is reviewed by NWI Supplier Quality and Supply Chain Management to determine whether the prospective supplier is qualified to become an NWI supplier.

### **3.4. New Supplier Approval Appraisals**

- 3.4.1. Approval appraisals may be used to conduct a comprehensive risk assessment of the supplier's capabilities, capacities, compliance, strengths and weaknesses and provide direction regarding developmental needs and opportunities.

- 3.4.2. The method of appraisal is based upon the scope and criticality of the work to be performed. For sustaining suppliers, past performance will also play a part in determining how frequent an appraisal may be employed.
- 3.4.3. Prior to any on-site activity, documentation and operational evidence to demonstrate performance should be organized to facilitate timely presentation and review by the appropriate NWI personnel. NWI personnel cannot conclude compliance unless they are presented with objective, verifiable evidence that the criteria have been met.

**3.5. Supplier Designations (See Table 1 for Minimum Quality System Requirements)**

- 3.5.1. Aerospace - This supplier is approved to provide materials/products for use in Aerospace (Commercial and DOD) applications.
- 3.5.2. Non-Aerospace - This supplier is approved to provide materials/products for use in other than Aerospace applications, e.g., Nuclear, Space, MRO, etc...



Required Quality System Level	Applicable Minimum Quality System Document (7)	Supplier Description
Level 1 (3)	AS9100	Manufacturer with design authority (Major Assemblies, Source/Spec. Control Product); Engineering Services with design/release authority
Level 2 (3)	AS9100 (1) or AS9003A	Manufacturer (Build-to-Print) Value Added Distributor, JIT Suppliers, Inspection Services (e.g., CMM), Raw Material Suppliers
Level 3 (4)	AS9120 or, ASA100	Pass Through Distributor, Standard Hardware Suppliers
Level 4 (2)(4)	Nadcap AC7004, or AS9003A	Processor
Level 5	AS9100 (3), AS9003A, or ISO9001 (3)	Tooling with design authority
Level 6	AS9100 (3), AS9003A, or ISO9001 (3)	Tooling (Build-to-Print)
Level 7 (5)	NONE	Commercial, Off-The-Shelf (COTS), Technical Service Providers, Customer authorized, CFE/CFM/PMI (6)
Level 8 (3)	ISO 10012-1or, ISO 17025 or, ANSI Z540-1or, A2LA, or NVLAP or AC7006	Calibration/Laboratories
Level 9 (3)	FAA FAR Part 145/21 or AS9110	Repair Stations
Level 10 (3)	ISO9001	Manufacturer, Single source, Customer directed not able to meet AS QMS Requirements

**NOTES:**

When AS9100 is referenced, EN9100 and SJAC9100 are also applicable.  
When AS9110 is referenced, EN9110 and SJAC9110 are also applicable.  
When AS9120 is referenced, EN9120 and SJAC9120 are also applicable

- (1) Less the "Design" requirements of the standard
- (2) Requirement is Nadcap/Nucap Process A approval
- (3) "Other Party" certification required
- (4) "Other Party" certification required, Approval to AS9100 will also satisfy this requirement
- (5) Service Providers may require other audits if NWI is to transmit Digital Data
- (6) CFE/CFM/PMI Customer Furnished Equipment/Material; Partner Managed Inventory. Customer authorized requires documented concurrence from the NWI customer.
- (7) These requirements are for Aerospace supplier designation only. For Non-Aerospace, NWI will define the QMS requirements.

**Table 1**

**3.6. Maintenance of Approved Supplier Status**

3.6.1. NWI monitors supplier performance on a monthly basis using Supplier Quality Performance Ratings. Suppliers, who continue to demonstrate unsatisfactory performance may

lose their approval status and become suspended or terminated. To regain satisfactory approval status, the supplier may be subject to formal supplier corrective action per Section 10, more extensive performance improvement actions as detailed in Section 11 or a supplier appraisal per Section 3.

- 3.6.2. Suppliers shall notify the NWI of the loss (probation / suspension / termination) of Quality System registration, FAA or Nadcap/Nucap approvals, or any "major" nonconformance that has been designated as having "product impact" or "potential product impact" or that may affect any NWI product. The supplier shall notify the NWI within 48 business hours of the occurrence. Submission shall be accomplished by contacting the appropriate Procurement Representative with an official letter providing details of the loss.
- 3.6.3. Suppliers may also lose their NWI approved supplier status for failing to maintain their appropriate Quality System, FAA or Nadcap/Nucap registrations or for any other significant quality related issues. The supplier shall notify NWI within 48 business hours of the occurrence. Submission shall be accomplished by contacting the appropriate Procurement Representative with an official letter providing details.
- 3.6.4. Inactivation of a supplier on the basis of Quality System failures shall ultimately be the decision of NWI Supply Chain Management in coordination with NWI Supplier Quality.

### **3.7. Current Supplier Evaluations**

- 3.7.1. For existing suppliers, NWI utilizes Quality System assessments, capacity analysis, and product conformity assessments to authorize supplier scope additions, maintain supplier approvals, and improve supplier performance.

### **3.8. Capacity Risk Assessment / Conformity Assessments / First Part Qualification**

- 3.8.1. NWI reserves the right to perform a review of the NWI purchase order and deliverable product(s) key/critical elements with the supplier. Assessments shall include but are not limited to specific areas of the suppliers:
  - 3.8.1.1. Quality System,
  - 3.8.1.2. Build package,
  - 3.8.1.3. Contract and purchase order flow downs,
  - 3.8.1.4. Control of tooling,
  - 3.8.1.5. Digital data handling,
  - 3.8.1.6. Supplier sub-tier management
- 3.8.2. Supplier Capability Risk Assessments are conducted to ensure the suppliers equipment, resources, technical and process capabilities are adequate to support the NWI purchase order/contract requirements.
- 3.8.3. Supplier Product Conformity Assessments are a process based review of a supplier's practiced business and manufacturing process controls against their internal procedures as well as PO and contractual requirements. Supplier Product Conformity Assessments may also be initiated when significant changes in a supplier's facility occur; major management changes, facility upgrades, equipment movement, major capacity changes, etc.

### **3.9. First Part Qualification**

- 3.9.1. First part qualification (FPQ) is typically required by the governing engineering specification. FPQ verifies that the fabrication and inspection procedures of the first production part are in compliance with drawings/specifications.

- 3.9.2. Examples of pre-production qualifications include, but are not limited to:
- 3.9.2.1. First Part Qualifications,
  - 3.9.2.2. Thermal Profile Plans/Reports,
  - 3.9.2.3. Preproduction Verification Plans.
- 3.9.3. Subject review will be performed to the extent necessary to verify mutual understanding of purchase order requirements, and ensure that supplier's production planning activities address all applicable key/critical elements.
- 3.9.4. Where specifications associated with product being procured by NWI require qualification or other types of approvals prior to production, the supplier shall submit all required materials and/or documentation to the appropriate NWI Procurement Representative. **Regardless of the customer specification verbiage, the supplier shall NOT contact NWI's customer regarding specification requirements associated with qualification data without prior written approval from the NWI.****
- 3.9.5. Nonconformances identified during any type of assessments or review may require initiation of formal corrective action requests in order to document the resolution. NWI will utilize assessment and review results as a basis for determining the amount and nature of additional supplier oversight required.
- 3.9.6. NWI may follow-up with suppliers to review the implementation of development strategies. This follow-up may occur through subsequent on-site assessments and/or a specific request to the supplier to provide evidence to substantiate the successful implementation of targeted improvements.

#### **4. Section Four - Supplier Responsibilities**

##### **4.1. Quality Assurance Requirements**

- 4.1.1. NWI PO's for direct parts / materials, outside processing and services may include a number of additional clause(s) relating to specific quality assurance requirements. Applicable Quality Assurance Requirements or Quality Clauses may be assigned on a part number or contract number basis and are identified on the NWI PO's.

##### **4.2. Identifying Applicable NWI Quality Assurance Requirements**

- 4.2.1. NWI Quality Assurance Requirements are NWI specific and apply only to the specific NWI Purchase Order.
- 4.2.2. Suppliers are expected to review all applicable Quality Assurance Requirements and clauses as a part of their contract review and quality planning processes. Requirements imposed by Quality Assurance Requirements are contractual and shall be integrated into the supplier's Quality Systems and / or product-specific planning and related controls to ensure consistent compliance for all parts / materials supplied.
- 4.2.3. The use of verbal communication and e-mails are not acceptable methods of communicating PO / Contract Requirements. Reference paragraph 2.5 for supplier information request (SIR) submittals.**
- 4.2.4. The appropriate NWI Procurement Representatives will assist suppliers in gaining the necessary access for the purposes of reviewing:
- 4.2.4.1. Quality Assurance Requirements,
  - 4.2.4.2. Technical engineering requirements defined on blueprints,
  - 4.2.4.3. Specifications, etc. as well as:

- 4.2.4.3.1. Requirements for Certificates of Conformance,
  - 4.2.4.3.2. Quantified test results,
  - 4.2.4.3.3. Use of appropriately qualified sources,
  - 4.2.4.3.4. Special part / material identification requirements,
  - 4.2.4.3.5. Any other requirement imposed by NWI Quality Assurance Requirements applied to the subject PO
- 4.2.5. NWI Quality Assurance Requirements encompass a broad range of additionally imposed contractual requirements, including but not limited to:
- 4.2.5.1. Critical Part/Material Traceability and / or Serialization Requirements,
  - 4.2.5.2. NWI and its Customer's or regulatory bodies Right of Entry for review of equipment, facilities, products, processes and systems,
  - 4.2.5.3. First Article Requirements,
  - 4.2.5.4. Record Retention Requirements,
  - 4.2.5.5. Special Restrictions on the Use of Qualified Sources,
  - 4.2.5.6. Special Control and Disposition of Nonconforming Materials,
  - 4.2.5.7. Program, Customer-Specific or DFAR Quality Requirements
- 4.2.6. **Acceptance of the NWI Purchase Order constitutes acceptance and accountability for achievement of all requirements listed on the Purchase Order and the requirements contained herein. Lack of diligence on the supplier's behalf is not justification for not complying with the applied requirements.**
- 4.2.7. It is the supplier's responsibility to perform an in depth review of the purchasing documentation to ensure that the supplier can and will comply with the requirements therein. It is also the supplier's responsibility to request or otherwise obtain subordinate documents, specifications and data referenced within the Purchasing Documentation. **Failures resulting from a lack of review and / or compliance with subordinate requirements documents will be considered the responsibility of the supplier.**
- 4.2.8. The supplier must obtain any agreements deviating from the issued purchase order in writing. No verbal agreements or e-mails will be recognized under any circumstances and all liability as a result of the supplier accepting verbal changes to the purchase order shall be the responsibility of the supplier. Any requests or deviation shall be forwarded to the issuing NWI Purchasing Representative in writing for agreement or re-assignment of the purchase order.
- 4.2.9. Changes, supplements or amendment to NWI Quality Requirements must be agreed to in writing by the respective NWI Supplier Quality Representative. NWI Procurement Representatives do not maintain the authority to modify, rescind or otherwise alter NWI Quality Requirements.

### 4.3. Contract Configuration

- 4.3.1. Unless otherwise specified in the Purchase Order / Contract Agreement, manufacturing and inspection shall be performed to the latest NWI released planning/engineering. The supplier is authorized to work to the drawing revision level noted on NWI supplied planning (where applicable) or to a more current revision of released engineering supplied by NWI. **If a drawing change notice or drawing revision changes the configuration of the part and is not called out on the purchase order or planning control sheet, the appropriate NWI Procurement Representative should be notified immediately for written authorization.**
- 4.3.2. If the purchase order does not indicate the revision of the drawing or specification, the drawing and / or specification revision in effect on the issue date of the purchase order shall be utilized. Requests to utilize a later revision of a process specification may be submitted to the NWI Procurement Representative.

- 4.3.3. Requests to utilize a later revision of a process specification must meet the following requirements:
  - 4.3.3.1. There is no NWI initiated Engineering Orders associated with the process specification that the author of the specification has not incorporated in the later revision.
  - 4.3.3.2. There is no cost or schedule impact to deliverable hardware under contract;
    - 4.3.3.2.1. If an impact does exist as a result of using a later process specification revision than that is shown on purchase order, the supplier shall contact the appropriate NWI Procurement Representative for disposition instructions.
    - 4.3.3.2.2. **NOTE:** Suppliers with design authority may approve their own sub tier process source(s). However, they are encouraged to subscribe to Nadcap and require Nadcap accreditation by their processors.

#### 4.4. Government Quality Assurance Requirements

- 4.4.1. When required, NWI source inspection shall precede **ALL** government source inspection.
- 4.4.2. Unclassified Programs
  - 4.4.2.1. The supplier shall determine applicability of this requirement via the "Government Source" requirement shown on the purchase order, at the purchase order line item level, or within the purchase order "notes" section.
  - 4.4.2.2. If applicable, the supplier shall promptly notify the government representative normally servicing supplier's facility. The supplier shall furnish a copy of the purchase order to the respective government office. If the government representative/agency cannot be identified, notify the NWI Procurement Representative immediately.
- 4.4.3. Classified Programs
  - 4.4.3.1. The supplier shall determine applicability of this requirement via the "Government Source" requirement shown on the purchase order, at the purchase order line item level, or within the purchase order "notes" section.
  - 4.4.3.2. When applicable, the supplier is specifically instructed **NOT** to contact the Government Representative normally servicing supplier's plant. The supplier shall contact the NWI Procurement Representative that will advise through NWI security channels of the Government Representative accessed and designated for this contract.

#### 4.5. Special Process Requirements

- 4.5.1. When the use of only NWI "Approved Special Processors" are specifically required by drawing, specification, purchase order, or other media, the supplier shall ensure that the processing source for these requirements, including those performed by the supplier, are listed on the NWI Approved Special Processor List prior to any processing of hardware. The NWI Approved Processor Listing is available by request to the NWI Procurement Representative. As a prerequisite for NWI ASPL approval, Special Processors require Nadcap/Nucap accreditation. NWI subscribes to Nadcap for the following process categories:
  - 4.5.1.1. Nondestructive Testing,
  - 4.5.1.2. Heat Treating,
  - 4.5.1.3. Material Testing Laboratories,

- 4.5.1.4. Chemical Processes,
  - 4.5.1.5. Coatings,
  - 4.5.1.6. Welding,
  - 4.5.1.7. Non-Conventional Machining & Surface Enhancement – Shot Peening,
  - 4.5.1.8. CompoCompanies
- 4.5.2. NWI reserves the right to validate Nadcap compliance to any processes that are unique to NWI or outside the scope of normal industry practice and/or Nadcap general audit practice. This requirement also applies to the first-tier suppliers with internal process capabilities. In addition, if the supplier utilizes any external special process sources, this requirement must be flowed down to the processing sources.
- 4.5.3. All costs associated with Nadcap/Nucap accreditation shall be borne by the processor. Performance Review Institute (PRI), a nonprofit affiliate of the Society of Automotive Engineers (SAE), must perform all Nadcap/Nucap accreditation audits. Detailed information regarding the Nadcap/Nucap accreditation process, including the audit schedule can be obtained from PRI at: [pri-network.org/nadcap/](http://pri-network.org/nadcap/).
- 4.5.4. When processes listed in the NWI customer approved processor list are required by drawing, specification, or purchase order, the supplier shall ensure that the processing source for these processes, including those performed by the supplier, are approved by the NWI customer prior to any processing of hardware. Customer approved processor lists are available by contacting the NWI Procurement Representative.
- 4.5.5. Processor purchase orders to NWI "Approved Processors" should contain the following statement:
- 4.5.5.1. "Work to be accomplished in performance of this purchase order is directly related to a NWI Purchase Order".  
The NWI Approved Special Processor Listings can be requested by contacting the NWI Procurement Representative.
  - 4.5.5.2. Subcontracted processes of components of supplier design must be performed by supplier-approved facilities whose capabilities and performance are supported by objective evidence of control such as surveys and/or test results. In the event that the subcontracted supplier is customer approved, it remains the responsibility of the supplier to verify all processes are performed in accordance with the specification requirements.**
- 4.5.6. A listing of all facilities being used by the supplier must be available for review by NWI which reserves the right of disapproval of those facilities not considered satisfactory. Suppliers shall not substitute their own or other party process specifications for NWI or customer process specifications without prior written approval from the applicable NWI Purchasing Representative.**
- 4.5.7. **Being listed on the NWI Approved Processor Listing (ASPL) does not assure or imply the quality of the work performed by the ASPL processor.** Nor shall it compel the listed processor to accept the work. When processes are procured, it is the responsibility of the supplier to verify all processes are performed in accordance with the specification requirements.
- 4.5.8. Additionally, the processor shall review, perform, inspect and certify to the process specification as required by the purchase order. Any departure from specification requirement requires the prior written approval of NWI Engineering group responsible for the specification. The NWI ASPL processor (at all tiers) shall also comply with any NWI unique requirements such as submission of test coupons, written approval of the

processor's detail procedures, use of specific chemicals and/or concentrations, and witnessing of first part processing and etc., when required by the process specification or the NWI Purchase Order.

#### **4.6. Raw Material Type and Temper**

- 4.6.1. All metallic details, prior to the first fabrication operation, the supplier is required to verify the correct material type and temper to engineering. Verification shall be accomplished by verifying the Material Certificate of Conformance test results during receiving inspection of the raw material. (Evidence of the review shall be indicated by an inspection stamp).
- 4.6.2. The work order should have the information for traceability during the manufacturing process and must be stamped by the inspector on the assigned operation.
- 4.6.3. Evidence of verification shall be on the supplier's shop traveler, work order, planning paper or other inspection status documentation.
- 4.6.4. No material substitutions are authorized unless approved by NWI. Contact the appropriate NWI Procurement Representative for approvals.

#### **4.7. Counterfeit Parts Avoidance, Detection, Mitigation, and Disposition**

- 4.7.1. NWI suppliers shall put into place a documented program to avoid, detect, mitigate and disposition counterfeit parts and materials. Electronics suppliers should utilize and reference AS5553 for guidance. All other suppliers should utilize AS6174 for guidance.
- 4.7.2. Suppliers shall also flow down counterfeit parts program requirements to their sub-tiers, especially but not limited to:
  - 4.7.2.1. Electronic parts suppliers,
  - 4.7.2.2. Raw material suppliers,
  - 4.7.2.3. Distributors

**Note: This requirement can be coordinated with transition to AS9100D certification.**

#### **4.8. Nonconforming Material Control**

- 4.8.1. Supplier-responsible nonconformances are defined as any violation of a specified contractual requirement imposed by a NWI purchase order. Nonconformance's are to be processed in accordance with the specific NWI contractual requirements as defined in the respective appendices of this manual. Details on the processing of nonconformances can be requested from the NWI Procurement Representative.

#### **4.9. NWI Supplied Material**

- 4.9.1. If NWI supplied parts or material is found to be nonconforming upon receipt, the supplier is to immediately notify the appropriate NWI Procurement Representative listed on the purchase order. The continued use of this material without the permission of NWI constitutes the suppliers acceptance of part or material quality and any costs related to repair or replacement.

#### **4.10. Supplier Disposition Authority**

- 4.10.1. **Unless identified specifically by a NWI purchase order or Quality Requirement**, a supplier's disposition authority of nonconformances is limited to rework, return to supplier and scrap; unless the supplier has been granted MRB authority. **It is up to the supplier to validate NWI Disposition Authority via the NWI Quality Assurance Requirements.** Disposition Authority terms are defined as follows:

- 4.10.1.1. Rework

- 4.10.1.1.1. A process applied to a nonconformance, entirely within the confines of the drawing specifications that will completely eliminate it and result in a characteristic that conforms completely to the drawings, specifications, and contract requirements.

- 4.10.1.1.2. Under the provisions of this definition, rework is authorized only when approved in writing by NWI and the governing specification is within the bounds of the associated specification that provides the necessary rework instructions.

When authorized in writing by NWI, suppliers must document the nonconformance(s) and provide detail rework instructions as part of their manufacturing planning process. This is considered a part of the supplier's approved Quality System relative to the control, documentation, and disposition of nonconforming material. Any rework that will alter the chemical or mechanical properties of the affected part final engineering configuration must be submitted to NWI MRB for disposition.

- 4.10.1.2. Repair

- 4.10.1.2.1. Under no circumstances shall a supplier or a supplier's sub-tier supplier perform any repair procedures / operations without specific written authorization from NWI. To accelerate the repair process, it is recommended that the suppliers submit their repair plan upon nonconformance notification to NWI Procurement Representative.

- 4.10.1.3. Reworked/Replaced Material

- 4.10.1.3.1. When returning previously rejected material to NWI, the supplier shall reference the nonconformance document number on the shipping documents (including the Certificate of Conformance), and shall state if the items have been replaced or reworked. Under no circumstances should reworked or replaced material be combined with any other material.

- 4.10.1.4. Return to Supplier

- 4.10.1.4.1. Return of subcontractor product found to be discrepant for subsequent rework or replacement.

- 4.10.1.5. Scrap



- 4.10.1.5.1. Permanent removal from production and timely destruction of product found to be unfit for use. Scrapped product shall be conspicuously and permanently marked and or segregated until destroyed. All other dispositions of nonconforming material shall be submitted to NWI MRB.
- 4.10.1.5.2. Scrapping of parts or materials that are provided by NWI customer or Company is prohibited without prior written authorization.

#### **4.11. MRB Dispositions for Supplier Designed Hardware**

- 4.11.1. Suppliers of product that retain design authority to a Source / Specification Control Drawing (SCD) may use dispositions of use-as-is or repair as long as the nonconformity does not result in a departure from the requirements of the SCD / Customer Specification. This includes suppliers that produce products of proprietary design, and products to military and industry standards.
- 4.11.2. The supplier's MRB shall not perform any disposition on any nonconformance to customer requirements that affect form, fit, function, weight, interchangeability, reliability or safety. These nonconformances shall be submitted to NWI Procurement Representative in accordance with paragraph 4.8 and 4.12.

#### **4.12. Recording & Reporting of Supplier-Responsible Nonconformance's**

- 4.12.1. Nonconforming parts / materials or processing shall be coordinated through NWI. Such documents will be developed as a result of supplier- responsible nonconformances encountered at any point in the value chain established between NWI and its suppliers.
- 4.12.2. Nonconformance documents are to be submitted to NWI Supplier Quality or Procurement Representative.

#### **4.13. Supplier Responsibilities upon Notification of Nonconformance's**

- 4.13.1. Suppliers are expected to immediately route nonconformance information to their appropriate Operations and Quality personnel. Once notified, suppliers are required to undertake immediate containment action to minimize or eliminate any further impact to NWI and/or its customer's as a result of similar nonconformance's, which may be in- process, in the supplier's inventory, or in the process of delivery. Containment shall include parts nonconformance that may be in the process of shipping, at a customer or in the field.
- 4.13.2. Suppliers will also be expected to participate in discussions with NWI Supplier Quality and Procurement Representative regarding appropriate disposition options for nonconformances encountered as well as the future availability of known-acceptable replacement stock as required.
- 4.13.3. When schedule permits, suppliers may request return of nonconforming parts / materials, at their expense, when such parts/materials are not otherwise suitable for immediate use or rework by NWI. Alternately, when schedule permits, suppliers are encouraged to examine nonconformance's at NWI prior to final disposition in order to aid the development of timely and appropriate corrective / preventive actions.

#### **4.14. Supplier-Responsible Nonconformance Cost Recovery**

- 4.14.1. **At the discretion of NWI**, suppliers may be subject to charges for recovery of costs associated with any / all supplier-responsible nonconforming parts/materials. Such charges will include:
  - 4.14.1.1. An administrative charge for each nonconformance document generated by NWI supplier as determined by NWI Procurement Representative,
  - 4.14.1.2. An administrative charge for each request for error corrections required to a material certificate or Certificate of Conformance generated by a NWI supplier as determined by NWI Procurement Representative,

- 4.14.1.3. A "to be determined" rework charge (USD) for each part requiring rework by NWI or NWI Customer personnel, (amount as determined by actual rework cost),
- 4.14.1.4. Part and / or material charges (USD) per purchase order or contract pricing for each part and / or material scrapped at NWI or its customer (amount as determined by scrap cost).
- 4.14.2. Additional charges may also apply where parts or materials, as supplied by NWI and/or its Customer, require scrapping at the supplier as a result of the suppliers actions (amount as determined by scrap cost),
- 4.14.3. Additional charges may also apply where supplied parts / materials require extraordinary rework at NWI or its Customer, e.g., an assembly needing to be disassembled, part removed and replaced due to bad part / material, etc. (amount as determined by actual rework cost).

#### **4.15. Notification of Quality Escape**

- 4.15.1. When the supplier identifies or becomes aware of a suspect product / service that has escaped from the supplier's facility to NWI, the supplier shall notify the appropriate NWI Procurement Representative within 48 hours. Note: For escapes that affect "Safety of Flight" (i.e. controls) the suppliers shall submit all available information IMMEDIATELY UPON DISCOVERY.
- 4.15.2. A product or service escape is defined as a product or service that has been delivered / provided to NWI by a supplier that does not meet the NWI purchase order requirements.
- 4.15.3. The supplier notification shall consist of **2** methods of communication:
  - 4.15.3.1. By telephone to the appropriate NWI Procurement Representative,
  - 4.15.3.2. A second notification shall occur in writing utilizing the Supplier's Notification of Escape form,
  - 4.15.3.3. The supplier shall provide all of the detailed information in the Supplier Notification of Escape. Notifications that do not contain all requested information will be returned for additional supplier information.
- 4.15.4. Suppliers are required to attach the last FAI performed for the affected part (s). It is acceptable to list the FAIR No. from Net Inspect on the Supplier Notification of Escape form if the parts FAI's were submitted via Net Inspect.
- 4.15.5. If it is immediately known, it is expected that supplier root cause and long term corrective action will also be submitted with the notification. If the root cause and long term corrective action it is not immediately known, it shall be provided within 14 days or sooner if identified.
- 4.15.6. NWI may require additional detail information to support internal investigations and/or customer requests. Any similar goods held by the supplier shall be inspected and when found nonconforming, contained to prevent shipment.
- 4.15.7. **Non-recurring** instances of escapes reported by the supplier, in some cases may not be

counted against the supplier's Quality Performance Rating.

- 4.15.8. It is NWI's option to report Supplier Notifications of Escape incidents to the suppliers Quality System certification body via the OASIS feedback process.

**NOTE:** Suppliers may lose their approved supplier status and be removed from the NWI ASL for failing to report a known product quality escape.

#### **4.16. Inspection Sampling**

- 4.16.1. In some cases, inspection sampling methods are specifically prescribed or even prohibited by NWI Customers. Prior to implementation of any sampling, sampling plans and procedures must be submitted to and approved by NWI Quality Assurance.
- 4.16.2. A procedure in accordance with ARP9013 "Statistical Product Acceptance Requirements" shall be in place to support the utilization of sampling plans.

#### **4.17. Non-Destructive Test (NDT) Submittal Requirements**

- 4.17.1. **When required by NWI purchase order or Quality Requirement**, submittal of NDT general procedures and part-specific techniques to NWI is required prior to production testing. Note that NWI approval may also include the need for NWI customer approval.
- 4.17.1.1. Suppliers shall review the purchase order and associated drawings/drawing notes and related documents to determine if / when NDT is required.
- 4.17.2. NDT procedures and/or techniques shall be submitted to NWI Procurement Representative.
- 4.17.3. Guidelines for the minimum content of general procedures / techniques are provided in the respective NDT process specifications. After initial approval, any changes to subject documents shall be resubmitted to NWI for approval.
- 4.17.4. Unless detailed on NWI purchase order, NDT technique submittal is required for the following items only:
- 4.17.4.1. Critical Parts,
- 4.17.4.2. Class 1 and 2 castings (in accordance with SAE-AMS-STD-2175),
- 4.17.4.3. Pyrotechnics,
- 4.17.4.4. CompoCompanies,
- 4.17.4.5. Adhesive Bonded Assemblies,
- 4.17.4.6. When specifically designated in NWI's purchase order, drawing, etc.
- 4.17.5. Suppliers Using Outside (sub-tier) NDT Sources
- 4.17.5.1. Relative to 4.17, suppliers employing outside sources for NDT shall ensure that the selected NDT sub-tier has NWI approval as applicable for the NDT procedure / technique used.
- 4.17.6. Suppliers Utilizing In-House or Outside (Sub-Tier) Sources for Radiographic Inspection.
- 4.17.6.1. **When required by NWI purchase order or Quality Requirement**, radiographic techniques shall be established to assure that castings and/or finished part are free from detrimental defects. Noted techniques shall be approved by a NWI designated Level 3 prior to delivering the hardware. Note that NWI approval may also include the need for the NWI's customer approval.

#### **4.18. Manufacturing Plan Submittals For Critical Parts**

- 4.18.1. **When required by NWI purchase order or Quality Requirement**, manufacturing plans for Critical or in some cases, Non-Critical Parts may be required for approval.
- 4.18.2. **NOTE:** "Critical Parts" are parts identified on the Engineering drawing as:
  - 4.18.2.1. Fracture,
  - 4.18.2.2. Durability,
  - 4.18.2.3. Fatigue,
  - 4.18.2.4. Maintenance, as well as designated parts,
  - 4.18.2.5. Flight Safety Critical, and identifiable parts
- 4.18.3. Manufacturing plans requiring NWI and / or NWI's Customer approval per specification / purchase order requirements shall be submitted to NWI at least 30 days prior to start of production, or as required by applicable specification.
- 4.18.4. Manufacturing plans shall be submitted to NWI Procurement Representative. The manufacturing plan shall contain fabrication, processing, processor name, and inspection steps in the sequential order required by the applicable process specification(s) and/or engineering drawing(s). This shall also include all sub-tier associated manufacturing and/or process plans.
- 4.18.5. Upon approval of supplier's manufacturing plan, the plan will be considered "frozen" and the supplier shall control all manufacturing, processing, testing and inspections as stated in the approved plan. No deviations, including supplier's sub-tier suppliers / processors, are permitted without NWI's written authorization. Delivery of product is not permitted until supplier has received appropriate NWI approvals.

#### **4.19. NWI Furnished Tools**

- 4.19.1. When tooling is furnished by NWI or NWI's customers, this does not relieve the supplier of the responsibility of proving the adequacy of all tooling. Any anomalies found in such tooling must be immediately reported to the appropriate NWI Procurement Representative. All NWI furnished tools must be maintained, inventoried and readily recallable.
- 4.19.2. If NWI furnishes tooling to supplier requiring a tool prove-out, NWI acceptance will be based on verification of supplier's first article part and/or assembly documentation.
- 4.19.3. The supplier shall induct all NWI furnished Precision Measuring Equipment (PME) into their calibration system and control it in accordance with their written calibration procedures.
  - 4.19.3.1. PME is defined as any device used to measure, gage, and test, inspect or otherwise determine compliance with prescribed technical/engineering requirements. PME includes, but is not limited to, calipers, micrometers, linear scales, pin gages, thread gages, spline gages, custom gages, and optical comparators; coordinate measuring machines, hardness & conductivity testing equipment, optical flats, roughness testers, torque wrenches, tensiometers, protractors, sine bars and angle blocks.
- 4.19.4. The supplier is responsible for maintenance periodic calibration of all NWI furnished PME unless otherwise negotiated with the responsible NWI Procurement Representative.

#### **4.20. Key Characteristics**

- 4.20.1. When the Engineering drawing, specification, and / or **NWI purchase order or Quality Requirement**, includes "key characteristic" requirements, the supplier shall employ Variability Reduction / Statistical Process Control (VR/SPC) methods as defined in SAE AS9103 to ensure "Key Characteristic" integrity.
- 4.20.2. VR / SPC related records shall be retained at the supplier's facility and provided to NWI Procurement representative, upon request, for compliance review. The definition of "Key Characteristic" shall be those Key Characteristics specifically called out on Engineering drawings and/or purchase order/manufacturing notes.
- 4.20.3. The supplier shall establish control plans for applicable Key Characteristics and strive to achieve Cpk of 1.33 or better. If not achievable, contact the NWI Procurement Representative for direction.
- 4.20.4. When a NWI key characteristic or key characteristics are identified and contractually flowed to the supplier, NWI reserve the right to perform Advanced Quality System (AQS) Assessments as necessary at the supplier facility(s) to ensure compliance to NWI purchase order/contract requirements.

#### **4.21. Software Control (End-Item Deliverable)**

- 4.21.1. If the supplier is providing software supporting a procurement, the supplier shall establish and maintain a Software Quality Assurance (SQA) program in accordance with ISO 9001, utilizing ISO 9000-3 as a guideline for the development, supply and maintenance of software and any associated Data Item Description (DID) for writing an SQA plan.

### **5. Section Five - Shipping & Deliverable Documentation Requirements**

#### **5.1. Overview**

- 5.1.1. **NOTE:** Supplier's shall not return NWI furnished material without written direction of applicable NWI Purchasing Representative. Material returned to the NWI must include copies of NWI shipping documents. The supplier shall provide a packing sheet for each separate shipment. At a minimum, packing sheets or attachments shall include the following information:
  - 5.1.1.1. Supplier's company name and address,
  - 5.1.1.2. The appropriate NWI purchase order number, change order number and applicable purchase order line item(s) and part numbers,
  - 5.1.1.3. Record of applicable design drawing revision and applicable engineering changes (DCN, EO, etc.), as stated in the appropriate NWI purchase order, or later revision.

#### **5.2. Certification of Conformance (C of C)**

- 5.2.1. Form and Content
  - 5.2.1.1. A Certificate of Conformance (C of C) document provides written assurance that all work performed in connection with the appropriate NWI purchase order conforms to purchase order requirements.
    - 5.2.1.1.1. This can be a separate document from the packing sheet, or included on the packing sheet,
    - 5.2.1.1.2. **NOTE:** The original signature and / or stamp of supplier's authorized Quality Representative are required and must be dated. Secured, computer-generated signatures are acceptable. Additionally, the certification statement must state the suppliers Quality Assurance department has inspected the parts and they adhere to all contract requirements, applicable drawings and / or specifications.

- 5.2.1.2. All Certifications of Conformance shall be traceable to the material submitted and at a minimum shall contain:
  - 5.2.1.2.1. Suppliers name,
  - 5.2.1.2.2. Suppliers address,
  - 5.2.1.2.3. PO number,
  - 5.2.1.2.4. PO item number,
  - 5.2.1.2.5. Drawing number and revision,
  - 5.2.1.2.6. Quantity delivered,
  - 5.2.1.2.7. Serial number(s) (as required),
  - 5.2.1.2.8. When applicable, nonconformance reference number.
- 5.2.1.3. Product deliveries that have been subjected to Aerospace Industry designated "Special Processes" shall at a minimum be accompanied by the Processor's Certification for the Special Process or all of the following:
  - 5.2.1.3.1. Name of special process facility,
  - 5.2.1.3.2. Address of special process facility,
  - 5.2.1.3.3. Special process designation, nomenclature and revision,
  - 5.2.1.3.4. Date that special process was performed.
- 5.2.2. Machined Part Suppliers, Sheet Metal Part Suppliers, Composite/Nonmetallic Part Suppliers, Casting & Forging Suppliers, and Raw Material Manufacturers
  - 5.2.2.1. The supplier shall provide the raw material certifications which were provided by the original mill. Mill certifications shall include conformance with the applicable material specification as noted on the applicable NWI purchase order, material description, alloy and condition, physical properties, chemical analysis, and heat lot number.
    - 5.2.2.1.1. Note: Unless specifically required by the purchase order, suppliers that have been granted delegation from NWI or product that has been subjected to NWI source inspection do not need to include copies of the material certifications with the product delivery. However, certifications shall be made available during source inspection.
  - 5.2.2.2. If the raw material was purchased from a distributor, include the distributor's Certificate of Conformance along with the mill certification.
    - 5.2.2.2.1. Recertification by any means other than by the original mill is not authorized unless specifically directed through specific NWI Quality Requirements.
  - 5.2.2.3. Castings and forgings procured in support of NWI purchases of machined parts must have documented evidence of NWI / customer qualification acceptance prior to production. All chemical analysis and physical test certifications shall also be provided for castings and forgings.
    - 5.2.2.3.1. **NOTE:** Suppliers using NWI provided material may provide evidence of NWI consignment in lieu of raw material certifications.
    - 5.2.2.3.2. **NOTE:** This category also applies to machined / sheet metal assemblies where the assembly consists of the machined/sheet metal part and standard hardware such as bearings, bushings, nutplates, and/ or sleeves.
    - 5.2.2.3.3. **NOTE:** The supplier must clarify the type of information being provided by typing the words "Date Code," "Control Number," etc.

next to the information provided. When the shipment of deliverable items includes multiple date codes, control numbers, etc., each must be listed on the "Certificate of Conformance" document.

5.2.2.3.4. **NOTE:** When required by NWI purchase order or Quality Requirement, Certificates of Conformance for metallic product shall contain hardness and conductivity values.

5.2.2.3.5. NWI may specifically identify what surfaces to perform hardness tests, and what methods to utilize. **Incorrect scale or location may result in a scrap part of which the supplier shall be responsibility.**

5.2.2.3.6. **NOTE:** When special processing is performed, the suppliers manufacturing detail end item parts, shall list the order in which special processing was performed, the supplier that performed the process, the processor's special process approval number, and the Certificate of Conformance number from the special processor.

5.2.2.4. The supplier shall apply the actual date of manufacture, date code(s) or control number(s) to the shipping document and/or "Certificate of Conformance", signed by a supplier's designated Quality Representative.

### 5.2.3. Certification of Conformance (C of C) - Distributors of Standard Parts / Hardware / Raw Materials

5.2.3.1. To discourage the potential for counterfeit parts or materials from entering the supply chain, NWI does not accept raw materials from pass through distributors (Level 3) that have not been procured directly from the manufacturer, unless certified copies from the original mill are available or prior written approval has been provided by NWI. Any purchase of recertified raw material or raw material that has departed from direct control of the manufacturer is prohibited. Attempts to make such sales to NWI shall be grounds for supplier disapproval.

5.2.3.2. NWI approved distributors of raw material shall provide certified copies of manufacturer's test reports with each shipment.

5.2.3.2.1. NWI classifies a supplier as an approved distributor for a specific manufacturer when the distributor has written authorization from the manufacturer to procure and distribute specific products produced by manufacturer. It is the distributor's responsibility to provide a copy of the manufacturer's authorization letter to NWI upon request.

5.2.3.3. Suppliers who procure from distributors are to utilize only distributors with Quality Management Systems that comply with either AS/EN/SJAC9100, "Quality Management Systems – Requirements for Aviation, Space and Defense Operations," and/or AS/EN/SJAC9120, "Quality Management Systems – Requirements for Aviation, Space and Defense Distributors." NWI's first tier suppliers shall evaluate and select distributors based upon their ability to comply with this requirement. Note that methods for demonstrating compliance can include, but are not limited to, Quality Management System certification, second party audit, survey, etc.

5.2.3.4. Distributors shall ensure that standard parts / hardware/material are marked in accordance with specification requirements. Original mill marking shall be affixed and legible on raw materials and shall not show signs of tampering or altering.

5.2.3.5. NWI does not accept standard hardware or other items from pass through distributors (Level 3 Quality System approval) unless they are procured directly from the manufacturer or a copy of the original manufacturer certification / test report is

provided. In addition, hardware or other items that have been altered by a pass through distributor will not be accepted without prior written permission by NWI. Distributors wishing to provide "value added" services shall be approved to a NWI Supplier Quality System Survey Level 2 (See Table 1).

5.2.4. Certification of Conformance (C of C) - Suppliers of Age-Sensitive Materials

5.2.4.1. Suppliers must provide the original manufacturing / cure date, lot number(s), expiration date or length of shelf life (if indefinite, so state), and any special storage/handling instructions.

5.2.4.1.1. **NOTE:** For age-sensitive rubber products, the supplier's "expiration date" or "length of shelf life" data is not required if the cure date and applicable specification number are stamped on the deliverable hardware. Supplier is responsible to determine if acceptance test report submittal is required in accordance with applicable material specification.

5.2.5. Certification of Conformance (C of C) - Rework/Repair/Replacement/Modified

5.2.5.1. Items on supplier's Certification of Conformance and / or packing sheets (if it contains the C of C statement) shall clearly reflect the following requirements for rework, replacement, repair or modification of items returned to a supplier, including work performed by supplier at NWI's facility:

- 5.2.5.1.1. A clearly visible declaration that the item(s) have been reworked, repaired, replaced, or modified (as applicable), in accordance with respective nonconformance documents or applicable NWI purchase order,
- 5.2.5.1.2. The item(s) meet the requirements of the engineering document(s),
- 5.2.5.1.3. The original configuration and qualification status of the item(s) remains in effect (as applicable),
- 5.2.5.1.4. All applicable nonconformance document numbers or other references have been noted to insure traceability.

5.2.6. Certification of Conformance (C of C) - FAA Repair Stations

5.2.6.1. Suppliers shall provide a completed serviceable tag with FAA Form/Tag 8130-3, "Authorized Release Certificate, Airworthiness Approval Tag" in accordance with FAR, Part 43. Any Airworthiness Directives (AD's) or Service Bulletins (SB's) required by the contractor or the FAA shall be documented on the 8130-3 including level of compliance.

5.2.6.2. When applicable, the supplier shall provide FAA Form 337, "Major Repair and Alteration", and or FAA Form 8110-3, "Statement of Compliance with Airworthiness Standards". Work must be performed by a FAA FAR 145 approved repair station. When requested by NWI, supplier shall provide a completed copy of the final inspection work order, which details the entire scope of work performed.

5.2.6.2.1. When contractually required, NWI is required to monitor suppliers for compliance to the FAA Anti-Drug and Alcohol Misuse Prevention Program (AAMPP). When requested by NWI, the supplier agrees to provide objective evidence that employees are being tested as required by the AAMPP.

5.2.7. Certification of Conformance (C of C) - FAA FAR, Part 21 (Certification Procedure for Products and Parts)



- 5.2.7.1. Suppliers of new FAA products/parts shall provide documented evidence of traceability to FAR Part 21, Quality System Requirements, with each shipment. Suppliers of approved serviceable replacement parts shall provide with each shipment documented objective evidence of traceability to FAA FAR 21 as outlined by Advisory Circular No. 20-62 latest revision. Supplied parts shall be airworthy and acceptable for aircraft /aeronautical installations to all specifications called out contractually.
- 5.2.8. Certification of Conformance (C of C) - Qualification Certification
  - 5.2.8.1. When NWI drawing, procurement specification or purchase order requires deliverable items to be re-qualified, the supplier shall ensure that deliverable item(s) have identical components to those parts originally qualified to the applicable specification / control drawing. In addition, the supplier shall ensure that materials, parts and/or assemblies were inspected and/or tested to NWI designated specification control drawings (both NWI and supplier originated), and indicate revision level of engineering drawings, specifications, and applicable design / specification changes as stated in NWI's purchase order. NWI shall view the supplier's Certification of Conformance (C of C) document and/or packing sheet (if contains C of C) as supplier's indication of compliance with this requirement. End items delivered prior to completion of qualification testing shall be allowed only by NWI's written consent.
- 5.2.9. Certification of Conformance (C of C) - Kitted Parts
  - 5.2.9.1. All deliveries must be accompanied with a legible Certificate of Conformance (C of C) or equivalent with each kit. The supplier must certify that all material / parts have been processed, inspected, and tested in accordance with the purchase order and engineering requirements. The supporting data is on file and will be made available for NWI review upon request. Any deviations / waivers associated with material / parts in the kit are to be listed on the packing slip / C of C along with the affected part number. A first article inspection in accordance with NWI purchase order requirements is required against the kit part number as well as each individual part within the kit.
  - 5.2.9.2. **NOTE:** Any additional data package requirements will be itemized on the respective purchase order and/or planning configuration sheet (i.e., work order, manufacturing order, etc.).
- 5.2.10. Certification of Conformance - Assemblies/Sub-Assemblies
  - 5.2.10.1. All deliveries must be accompanied with a legible Certificate of Conformance (C of C) or equivalent with each kit. The supplier must certify that all material / parts have been processed, inspected, and tested in accordance with the purchase order and engineering requirements. The supporting data is on file and will be made available for NWI review upon request. Any deviations / waivers associated with material / parts in the assembly are to be listed on the packing slip / C of C along with the affected part number. A first article inspection in accordance with this document is required against the assembly part number as well as each individual part within the assembly.

### 5.3. Marking, Packaging and Handling

- 5.3.1. Suppliers shall mark all deliverable products and documents in accordance with the purchase order, manufacturing planning, engineering drawing or this document in that order of precedence.

- 5.3.1.1. In the event there is a conflict between the requirements defined in this document, the purchase order, the engineering drawing and/or specification, the drawing / specification shall take precedence.
- 5.3.2. In performance of the contract, the supplier shall assure that all articles are packaged in a manner and with materials necessary to prevent deterioration, corrosion, or damage. Requirements for packaging shall consider conditions affecting the article while at the supplier's facility, transportation to destination, and the expected or specified conditions at the destination.
- 5.3.3. The supplier shall provide special handling for articles sensitive to handling damage. During fabrication and processing, special carts, boxes, containers and transportation vehicles shall be used as necessary to prevent damage due to handling. During individual packaging of parts, the use of staples is prohibited. This requirement excludes multi-part box packaging. All parts shall be checked by the supplier for damage at receipt (when applicable) and prior to shipment.
- 5.3.4. When specific packaging requirements are flowed-down to NWI by their customer, the same requirements shall be flowed-down to the supplier. These requirements may supersede the requirements of this section, e.g. government specification packaging.

#### **5.4. Interchangeability And Replaceability (I&R) Requirements**

- 5.4.1. Supplier shall review the NWI purchase order and associated drawing(s) to determine if Interchangeability & Replaceability (I&R) features apply to supplier's deliverable hardware and/or statement of work.
- 5.4.2. I&R records shall be maintained by supplier and made available for NWI review upon request. Supplier's packing sheets and/or attachments must include the NWI designated I&R control numbers as specified in this purchase order's configuration statement of work.

#### **5.5. Records Retention and Disposition**

- 5.5.1. Records shall be readily available for review by NWI, its customers, and Government regulatory agencies. An English version (copy of the record) shall be available for all quality data and/or approved design data. Prior to destruction of any Quality Records related to NWI procurement, the supplier shall notify and submit a records disposition request to the appropriate NWI Procurement Representative.
  - 5.5.1.1. Records are those as defined in AS/EN/SJAC9100 or other governing Quality Management System specifications and shall be retained in hard paper, film media, and/or electronic as required by contract requirement, purchase order or if not defined, for a minimum of ten (10) years after purchase order completion or in accordance with NWI purchase order requirements. Per 5.5.1, NWI will be offered first right of refusal prior to record destruction.
- 5.5.2. Records include but are not limited to:
  - 5.5.2.1. Inspections and test results per the appropriate NWI purchase order requirements. As appropriate, the records shall indicate the nature and quantity of nonconformance's, the quantities approved and rejected, the nature of corrective action taken and the final sign off by Quality personnel.
  - 5.5.2.2. Manufacturing information and all supporting documentation such as raw material certifications, special processing records and certifications, manufacturing records, e.g., routers and travelers, shall be retained and remain continually accessible at no cost to NWI by the supplier in accordance with the terms of the

purchase order.

## 5.6. Traceable Records

- 5.6.1. The supplier shall maintain parts traceability records as required per applicable drawing requirements. The supplier's certificate of conformity package shall include parts traceability data.

## 5.7. Foreign Object Damage (FOD) Control Program

- 5.7.1. **When required by NWI purchase order or Quality Requirement**, the supplier shall establish, document and maintain a FOD control program in accordance with NAS412. The goal of the program is to control and eliminate foreign object damage and/or contamination appropriate to the supplier's manufacturing, assembly, test, inspection, packaging and shipping operations.
  - 5.7.1.1. **Foreign Objects (FO)** is defined as a substance or article alien to a product or system that could potentially cause Foreign Object Damage if not removed.
  - 5.7.1.2. **Foreign Object Damage (FOD)** is defined as any damage attributed to a foreign object that may be expressed in physical or economic terms, which may or may not degrade the product's required safety and/or performance characteristics.
  - 5.7.1.3. **Foreign Object Debris (FOD)** is defined as the condition where Foreign Object Debris has invaded a product or system. Examples include (but are not limited to):
    - 5.7.1.3.1. Manufacturing by-products and materials,
    - 5.7.1.3.2. Solder balls, screws, nuts, washers; insert tangs, component lead ends, wire and sleeve clippings, pieces of electronic components, flux, excess solder, tin whiskers,
    - 5.7.1.3.3. Dust/dirt from bench tops, equipment, and facility infrastructure,
    - 5.7.1.3.4. Finger oils or lotions, fibers from clothing, wrist bands or accessories, hair,
    - 5.7.1.3.5. Consumables, expendables, hardware, personal items.
- 5.7.2. When applicable, the supplier's Foreign Object control program shall include controls to preclude Foreign Object Damage or contamination at the supplier's sub-tier sources.
- 5.7.3. The following basic elements shall be included in the supplier's Foreign Object control program:
  - 5.7.3.1. Foreign Object prevention training,
  - 5.7.3.2. Performance measurement,
  - 5.7.3.3. Design and manufacturing planning consideration for Foreign Object prevention,
  - 5.7.3.4. Work sequencing,
  - 5.7.3.5. Cleanliness of work area (housekeeping),
  - 5.7.3.6. Control of tools, personal items, fasteners, scrap, etc. (accountability)
  - 5.7.3.7. Lost items search and documentation process,
  - 5.7.3.8. Protection from Foreign Objects during handling, packaging and shipping,
  - 5.7.3.9. Physical entry control into Foreign Object critical areas,
  - 5.7.3.10. Foreign Object focal point(s),
  - 5.7.3.11. Periodic (At least annually) evaluation of the Foreign Object control program for effectiveness,
- 5.7.4. At NWI's discretion, the supplier's Foreign Object control program is subject to an onsite visit at supplier's site for review and approval.

## 6. Section Six - Supplier First Article Inspection Requirements

### 6.1. First Article Inspection Requirements Overview

- 6.1.1. The purpose of a supplier First Article Inspection (FAI) is to ensure that all design features of a deliverable product and its sub components meet all applicable levels of design drawing, material, process specification, and purchase order requirements.
- 6.1.2. NWI requires suppliers of direct production parts to employ a First Article Inspection process in accordance with SAE AS9102. The purpose of this requirement is to develop objective evidence to support that all engineering design and specification requirements are properly understood, accounted for and verified.
- 6.1.3. The First Article is a process imposed on assemblies, sub-assemblies and detail parts (including castings, forgings, machined, composite, raw material cut to an engineering shape/part number, etc.). An acceptable first article product is a representation of those planned, capable and repetitive manufacturing processes and proven tooling which produced it. A complete FAI must be submitted prior to shipment of product.
- 6.1.4. An FAI product must be a true representative of the designed manufacturing / fabrication process. Therefore, suppliers shall not use prototype parts, or parts manufactured using methods different from those intended for the normal production process, for the FAI. The "First Part" produced may not qualify as the First Article if changes to the process are made subsequent to its delivery.
- 6.1.5. The supplier must be able to demonstrate that the intent of FAI was successfully accomplished, and show objective evidence thereof. The supplier will ensure FAI's submitted on behalf of sub-tier suppliers have been reviewed and are compliant with the requirements of this document.
- 6.1.6. Suppliers must notify NWI if the first delivered unit does not represent the process (es) under which the subsequent production deliveries will be produced.
- 6.1.7. Suppliers that proceed at risk and produce products prior to acceptance of the First Article NWI shall not have recourse to recover losses resultant from a failed First Article. All costs associated with the result of a rejected supplier First Article produced at risk by the supplier, shall be borne by the supplier.
  - 6.1.7.1. Suppliers can proceed without risk to themselves (at NWI risk) only when the supplier is authorized in writing by NWI Procurement and Supplier Quality Representatives.
- 6.1.8. The requirement for First Article Inspection excludes supplied basic raw materials such as metallic plate/sheet, chemicals, fibers, fabrics, and outside processing services unless otherwise a part of approval processes administered by a NWI Customer.

## **6.2. First Article Requirements**

- 6.2.1. Partial or complete re-accomplishment of the First Article Inspection for affected characteristics is required for changes in product design; any change in the supplier's manufacturing process, or other events as prescribed within AS9102.
- 6.2.2. The following are requirements of the NWI First Article Inspection process:
  - 6.2.2.1. First Articles are performed in accordance with AS9102.
  - 6.2.2.2. Prior to shipment of production parts, NWI suppliers are required to perform First Articles in accordance with AS9102.
  - 6.2.2.3. This data is to be developed and documented in accordance with methods prescribed within SAE AS9102 - Aerospace First Article Inspection Requirement (latest revision). Suppliers are to utilize the forms associated with this standard where possible. A supplier's equivalent forms may be used in place of those contained within SAE AS9102, provided all content prescribed within SAE AS9102 is included. Suppliers may acquire copies of SAE AS9102 and the associated forms at the following web-

Company address: [www.sae.org](http://www.sae.org)

6.2.2.4. Additional First Article inspection requirements above and beyond SAE AS9102 may be imposed by the NWI.

**6.2.3.** Along with the First Article report, the supplier shall include "all supporting documentation" **as required per NWI purchase order or Quality Requirement.**

6.2.3.1. Supplier First Articles will be submitted in accordance with Purchase order requirements.

6.2.3.2. Unless otherwise authorized, a copy of the completed First Article Inspection Report shall be provided to NWI for its review and approval.

6.2.3.3. The supplier is required to retain the master First Article reports and associated data as described in 5.5, Record Retention and maintain the FAI records ready for review by NWI or appropriate NWI Customer upon request.

6.2.3.4. With the exception of catalog or standard hardware, raw materials Certificates of Conformance (C of C) are not an acceptable substitute for full chemical and physical certification (mill certifications) on First Article Units.

6.2.3.5. For critical and other select parts, NWI may elect to have the supplier withhold their First Article submission in order to allow NWI Supplier Quality to conduct a verification of the First Article part and data at the supplier's production facility. Arrangements for this type of review will be addressed and shall be coordinated in advance between NWI and the supplier.

6.2.4. First Article Build Package

6.2.4.1. The FAI will not be considered complete until all build package issues are resolved. The build package consists of:

6.2.4.1.1. Engineering,

6.2.4.1.2. Specifications,

6.2.4.1.3. Planning,

6.2.4.1.4. Tooling,

6.2.4.1.5. Purchase Order,

6.2.4.1.6. Numerically Controlled Equipment Data (as applicable).

6.2.4.2. The FAI will not be considered complete until nonconformance's affecting the part or assemblies have been closed and corrective action implemented. Partial FAI's will be performed for those affected characteristics and the results recorded.

6.2.4.3. The FAI requirement shall continue to apply even after initial compliance. Partial or complete re-accomplishment of the FAI for affected characteristics is required for the following events:

6.2.4.3.1. A change in the design affecting the form, fit or function of part,

6.2.4.3.2. A change in manufacturing source(s), processes, processors, inspection method(s), location, tooling or material with the potential of affecting form, fit or function,

6.2.4.3.3. When required as part of a corrective action for a part number with repetitive rejection history (typically a part with three repeated rejections or as required by the customer),

6.2.4.3.4. A change in numerical control program or translation to another media,

6.2.4.3.5. A natural or man-made occurrence, which may adversely affect the manufacturing process,

6.2.4.3.6. A lapse in production for two years or as specified by a specific NWI Purchase Order Quality Requirement.

6.2.5. Supplier Sub-Assembly and Kit First Article

6.2.5.1. When the supplier chooses to procure subassemblies and parts, these FAI requirements shall be imposed by the supplier upon the sub-tier supplier. These

- requirements in no way limit, supersede, or abrogate any contractual obligations specified in NWI's procurement document.
- 6.2.5.2. If the supplier is furnishing kits, a FAI must be performed and documented by the supplier for each item in the kit, as well as the kit level part number.
- 6.2.6. First Article Digital Product Definition (DPD)
- 6.2.6.1. When the engineering is based on Digital Product Definition the following guidelines shall be taken into account:
- 6.2.6.1.1. All features that are defined by the 3-D model must be included in the product acceptance plan and accounted for as part of the FAI documentation.
- 6.2.6.2. When the dimensional characteristics are not defined by either a standard linear tolerance or GD&T feature control frame on the face of the model, these features are defined in the parts list and / or notes on the drawing.
- 6.2.6.2.1. Examples of un-dimensioned part characteristics include but not limited to, gage thickness, surface locations, and part periphery.
- 6.2.6.3. The FAI shall account for the entire engineering dataset (i.e., the general / flag notes, parts list, all features / characteristics per defined tolerances).
- 6.2.7. First Article Parts Shall be identified as First Article
- 6.2.7.1. To facilitate NWI's identification and verification of First Article parts and data, suppliers are required to identify the part tagging or packaging by a suitable means that conspicuously identifies the First Article part as such.
- 6.2.8. NWI Review and Approval of Individual Part First Article Submissions
- 6.2.8.1. NWI Quality Assurance personnel will review the First Article inspection report data for compliance to engineering requirements and for required content in accordance with SAE AS9102. NWI may also re- inspect parts to validate supplier First Article reports.
- 6.2.8.2. If applicable, suppliers will be notified of the rejection of their First Article submission through the NWI or NWI's designated reviewer.
- 6.2.8.3. Rejected First Articles will require resubmission of the complete or partial First Articles data and where requested, parts. Partial or complete re-accomplishment of the First Article Inspection for affected characteristics is required for changes in product design; any change in the supplier's manufacturing process, or other events as prescribed within SAE AS9102 and this document.
- 6.2.8.4. NWI may also require any sample parts used in the First Article process. NWI Quality Assurance personnel reserve the right to review the First Article parts and associated data to assure supplier compliance to engineering requirements and for required content in accordance with AS9102.
- 6.2.8.5. A rejected First Article may result in the issuance of a Supplier Corrective Action Request by NWI in order to identify the reason the rejected First Article was not detected by the supplier's Quality System.
- 6.2.9. NWI Review and Validation of Supplier First Article Processes
- 6.2.9.1. Where appropriate, NWI Supplier Quality may utilize a

specifically tailored Process Review in order to validate the thoroughness and effectiveness of those processes developed and deployed by individual suppliers for purposes of generating and verifying their First Article documentation in accordance with SAE AS9102. Those suppliers whose processes are successfully validated in this manner will still be required to transmit their First Article Inspection reports along with the labeled part from which the data was derived, but will not be required to seek NWI First Article Verification approval for individual parts prior to commencing ongoing production shipments.

### **6.3. Qualified Dies For Castings & Forgings Procured to an Engineering Drawing (Part Number)**

- 6.3.1. Prior to initial production, the die or pattern must be qualified per the requirements of the blueprint specifications, the supplier of the castings or forgings shall perform first piece inspection. Actual dimensions are to be recorded on the First Article Inspection SAE AS9102 Form. Supplier equivalent forms are acceptable providing they address all the elements of the AS9102 form. To clarify, when the forging or casting is to be procured to an engineering drawing, the FAI along with the qualification package (as defined by governing specifications) shall be submitted to NWI for review and approval.

## **7. Section Seven – Suppliers Sub-tier Controls**

### **7.1. Sub-Tier Supplier Controls Overview**

- 7.1.1. It is the contractual requirement of suppliers to ensure items procured to support a NWI purchase order meets and conforms to all specified requirements. **NWI does not authorize delegated product inspection on behalf of the supplier without providing written approval.**

### **7.2. NWI Suppliers Management of Sub-tier Suppliers**

- 7.2.1. NWI suppliers are responsible for management of their subcontractors. This management shall include compliance in addition to acceptable quality performance.
- 7.2.2. It is strongly recommended that NWI suppliers utilize sub-tier suppliers that are certified to the most current versions (or as allowed by a recognized accreditation agency transition plan) of AS/EN/SJAC9100, 9110, 9120, AS9003, AC7004 or ISO9001 by a recognized standard accreditation agency (as noted in Table 1, ref. para. 3.5).
- 7.2.3. Sub-tier suppliers can be categorized as compliant if a compliance audit is performed by the supplier and the results are available for review by NWI. Any risk of utilizing sub-tiers without the recommended Quality System capability shall be borne solely by the supplier
- 7.2.4. Suppliers shall provide purchasing information to their suppliers that adequately describe the product/service to be procured. It is recommended that suppliers provide specific information in lieu of general reference to specification or documentation.

### **7.3. Requirement Flow Down**

- 7.3.1. Suppliers are responsible for flow down of all the requirements and provisions of the NWI purchase order and this document to the supplier's sub-contractors. Deviations to this document and/or NWI purchase orders are not authorized without written consent of NWI. When Customer specific documents are flowed down to the supplier, the supplier shall also flow down the same documents to their sub-tier suppliers as applicable to the process / service being provided to the supplier by its sub-tiers.

### **7.4. Special Process Approvals**

- 7.4.1. NWI suppliers are also **required** to utilize prime contractor approved suppliers

when designated. NWI suppliers and their sub-tiers are responsible to ensure that only approved process sources are used. **When required by NWI purchase order or Quality Requirement**, Nadcap approved processors shall be utilized.

- 7.4.2. Customer approval does not assure nor imply that work performed by a processor listed on the approved processor list is acceptable. NWI suppliers and their sub-tier **suppliers are solely responsible** to assure that a processor meets all contract, purchase order, drawing and process specification requirements. When processors are not designated, the supplier must approve the processor and the supplier becomes responsible for the processors performance as an approved supplier.

## **7.5. Drawings Specifications and Quality Requirements**

- 7.5.1. The supplier's Quality System shall assure that the applicable drawings, specifications, and quality requirements revisions are compatible with current purchase order agreements and are available and in use by the supplier's manufacturing and inspection areas. Military standards and specifications utilized shall be to the latest revision in effect on the date of process or manufacturing process performance, unless otherwise specified.
- 7.5.2. For specifications controlled by OEM and / or industry sources, suppliers shall independently verify the correct revision of the same and utilize the information in support of purchase order performance. NWI **will not** actively provide applicable revision levels for these types of documents.
- 7.5.3. Suppliers may contact the applicable NWI Supplier Quality Representative for information in regards to OEM or industry web access points where the required revisions are available.
- 7.5.4. It is the responsibility of the supplier to notify NWI when Engineering does not agree with the revision data provided on the purchase order. Product or process nonconformance resulting from the failure of the supplier to notify NWI shall be deemed supplier responsibility.

## **7.6. Use Of Non-US Suppliers On Commercial Programs**

- 7.6.1. The use of suppliers or sub-tier suppliers in countries that maintain a bilateral agreement with the United States, as listed in FAA Advisory Circular AC 21-23, will require a routine validation of the product / service supplied upon receipt or at source. This may be in the form inspection or test as determined for the type of product and must be documented. The validation of the product or service may be accomplished by the Foreign Civil Aviation Authority, and evidenced by an Airworthiness Tag supplied by that agency accompanying the shipment. The use of suppliers or sub-tier suppliers in countries that do not maintain a bilateral agreement with the United States must have a plan presented in advance for approval by NWI's Quality Assurance Department.
- 7.6.2. The plan must delineate how the supplier will control the product or service to assure conformance with all the approved design data. Secondly, the plan must incorporate how the foreign supplier's Quality Assurance Organization will specifically control their operations and any foreign sub-tier suppliers to assure conformance of the product / service to the approved plan. The use of a supplier in a country that does not have a bilateral agreement with the United States is also predicated upon both that country's government and the supplier's documented assurance that the FAA will not be inhibited, in any manner, from performing a physical evaluation of the supplier.

## **7.7. Sub-tier Supplier/Processor Certification**



- 7.7.1. If the supplier is not the original fabricator, processor or assembly source of the product(s) which make up the deliverable end item(s), the supplier shall obtain and retain on file sub-tier supplier/ processor certifications and test results. The supplier's sub-tier supplier/processor certifications and test results shall be made available to NWI upon request. Additional requirements as applicable:
  - 7.7.1.1. Serial Number,
  - 7.7.1.2. Interchangeable and Replaceable (I&R) designated control numbers,
  - 7.7.1.3. Required parts traceability forms associated with Section 5.4,
    - 7.7.1.3.1. When required by NWI purchase order or Quality Requirement, additional Certs shall be provided at no extra charge.

## **8. Section Eight - Supplier Measurement**

### **8.1. Quality Performance Measurement Overview**

- 8.1.1. The risk based Supplier Quality Scorecard is calculated monthly, however, the 12-month average rating will be used for each threshold, leading to any actions by NWI to address supplier quality issues. The Supplier Quality Scorecard represents the Supplier's demonstrated performance based as follows:
  - 8.1.1.1. Monthly cumulative average for delivered quality yield rating (percentage of supplied materials / services which meet all specified requirements). Example:
    - 8.1.1.1.1. (1 piece nonconforming / 1500 pieces delivered = 99.93% acceptance yield)
- 8.1.2. Distinct nonconformances reported by the Supplier shall not be counted against the Supplier's cumulative yield rating. Repeat nonconformances, which at the judgment of NWI Quality, that are not adequately addressed by the Supplier utilizing corrective action may be counted against the Supplier's quality rating. Negative trends or duplications in the Supplier's reported nonconformances may also be given due attention and consideration as a reflection of the Supplier's corrective action process viability.
- 8.1.3.** The supplier risk level ranges in value from 1 to 4, with 1 being low risk and 4 being high risk. See (Table 2) below.
- 8.1.4. **NOTE:** If a component has no data to report, then the field will reflect "N/A" and the risk calculation will be adjusted accordingly. NWI suppliers who do not maintain a satisfactory SQPR score may be required to provide formal documented corrective action plans and / or to participate in formal performance reviews with NWI. Where these remedial activities are unsuccessful, suppliers may be subject to removal from the ASL.



Activity	Measure	Green Preferred	Green Threshold	Yellow Threshold	Red Threshold
12 Month Cumulative Quality Yield Rating	Percent Acceptance	100%	99.99% - 99.6%	99.59% - 98.0%	97.99%

**Table 2**

**8.2. Supplier Quality Performance Rating (SQPR) Reporting**

8.2.1. Resultant scores are provided to each NWI supplier monthly and is forwarded to the appropriate contact name listed on the NWI supplier profile. It is the responsibility of each NWI supplier to assure the contact name listed on their profile is current.

**8.3. Delivery Performance Measurement Overview**

8.3.1. The OTD rating is calculated for the Supplier Delivery Performance Rating (SDPR) with data entered monthly in the NWI ERP System. The actual supplier rating is based on a 12-month average used for each threshold.

8.3.2. The OTD rating is calculated as a percentage of pieces received on time against the promised date agreed by the supplier which has been entered into the NWI ERP System. See Table 3 for the OTD risk levels.

Activity	Measure	Green Preferred	Green Threshold	Yellow Threshold	Red Threshold
12 Month Cumulative Quality Yield Rating	Percent Acceptance	100% - 98%	97.99% - 96%	95.99% - 90.0%	90.00%

**Table 3**

- 8.3.3. The supplier's month to month performance will be posted as a YTD cumulative measure of their performance.
- 8.3.4. The supplier's performance shall be monitored within a 12 month rolling SPR window.

**8.4. Supplier Performance Rating Thresholds**

- 8.4.1. Tables 2 and 3 illustrates Supplier Quality and Delivery Performance Rating thresholds for the NWI suppliers. The Quality and Delivery performance ratings are independent of each other and are not comingled.
- 8.4.2. For further details, reference NWI procedure 3-SC-03 Supplier Performance review

**8.5. Supplier Appeal Process**

- 8.5.1. Suppliers may contest a specific Quality or Delivery rating by submitting a written appeal to their NWI Procurement Representative within 10 working days of issuance of their SQPR/SDPR Reports. NWI will review the appeal and respond within an additional 10 working day period. Appeals are accomplished by contesting data specific to the month of the Quality or Delivery report.

**8.6. Supplier Pay for Source Inspection**

- 8.6.1. **When specified by NWI purchase order or Quality Requirement**, products supplied to NWI are subject to Pay for Source Inspection. Pay for Source Inspection requirements are normally utilized for new suppliers; suppliers who have not qualified for or have been removed from NWI's Preferred Performer Program (P<sup>3</sup>) inspection delegation program or have quality / performance issues. Pay for Source Inspection requirements can be applied at the purchase order line item level for individual part numbers that have had repetitive quality escapes.
- 8.6.2. Pay for Source Inspection shall only be performed by a NWI approved inspection service provider or authorized NWI employee. For a listing of authorized inspection service providers, contact the NWI Procurement or Supplier Quality Representative.
- 8.6.3. NWI and Government Source Deliverable product(s) are subject to NWI and U.S. Government's source inspection or surveillance in accordance with the provisions stated above for each respectively.
- 8.6.4. NWI inspection requirements are noted on the purchase order. Supplier shall refer to this section for the NWI inspection instructions.

**9. Section Nine - Preferred Performer Program (P<sup>3</sup>)**

**9.1. Preferred Performer Program Overview**

- 9.1.1. The NWI Preferred Performer Program (P<sup>3</sup>) is a delegated supplier inspection program intended to recognize superior supplier performance. The Preferred Performer Program gives suppliers preferential consideration for NWI purchases and allows them to perform inspection functions and acceptance of product authorized by purchase order on behalf of NWI.
- 9.1.2. NWI P<sup>3</sup> suppliers are authorized to perform inspection functions and acceptance of product and associated paperwork on behalf of NWI. A supplier's P<sup>3</sup> authority is defined per the scope of approval document created during the P<sup>3</sup> authorization process. The application of P<sup>3</sup> authority is at the discretion of NWI and

may be revoked at any time. Delegated inspection processes **MAY NOT** be delegated to another supplier's employee or delegated by the supplier to a sub-tier supplier. P<sup>3</sup> authority is limited to the scope as defined by NWI.

9.1.3. P<sup>3</sup> suppliers that lose their delegated source inspection status due to quality performance reasons may be required to contract and "Pay for Source" Inspection through an NWI approved service provider. The P<sup>3</sup> supplier may regain their delegated status when all the following conditions are met:

9.1.3.1. Successful corrective action resolution of the issue / event causing removal of delegation,

9.1.3.2. Three (3) consecutive deliveries with no recurrence of the issue / event involved in the loss of delegation if the loss was based on a single issue / event,

9.1.3.3. Positive nonconformance improvement trend for the latest quarter quality performance metrics,

9.1.3.4. A minimum of ninety days loss of delegation

## **9.2. Product Release**

9.2.1. For suppliers that are not approved for P<sup>3</sup>, product(s) associated with a NWI purchase order may be subject to NWI inspection or source surveillance.

9.2.2. At the discretion of NWI, the right is reserved to perform Supply Chain Quality Source Surveillance at supplier facilities when invoked in the NWI Purchase Order and / or when the supplier's product quality becomes unacceptable.

9.2.3. At the discretion of NWI, suppliers may be subjected to "Pay for Source" when stated in the issuing NWI Purchase Order.

## **10. Section Ten - Corrective Action and Continual Improvement**

### **10.1. Corrective Action and Continual Improvement Process Overview**

10.1.1. NWI employ a closed loop, Corrective and Preventive Action methodology in order to address product, process, performance, Quality System and audit nonconformances.

10.1.2. Responses for corrective action are designated within SCAR process

### **10.2. Initiation of a Supplier Corrective Action Request (SCAR)**

10.2.1. NWI may initiate a Supplier Corrective Action Request (SCAR) process by documenting the nonconforming product, process, Quality System or performance condition and notifying the supplier.

10.2.2. A supplier SCAR should be given the highest priority within the supplier's operations and thus requires the urgent and active participation of the supplier's management team. A request for supplier corrective action can be prompted by either nonconforming supplied parts / materials, supplier performance, Quality System issue or process / assessment finding that has produced a need for corrective action.

10.2.3. NWI Supplier Quality personnel will review the supplier's response for timeliness, completeness of the submission and the suitability of the responses. Late and / or rejected responses will be recorded and the data reviewed to determine supplier capability to perform adequate corrective action.

10.2.4. Suppliers who demonstrate a consistent inability to provide acceptable responses to Supplier Corrective Action Requests or within the deadlines established are subject to a probationary

status or introduction to the Supplier Performance Improvement Process detailed in Section 11.

## **11. Section Eleven -Supplier Performance Improvement Program (SPIP)**

### **11.1. Supplier Performance Improvement Program Overview**

- 11.1.1. The Supplier Performance Improvement Program is utilized by NWI to address chronic and / or severe performance issues with approved suppliers. This process utilizes root cause corrective action to correct supplier performance issues. Where necessary, NWI may terminate business with suppliers that demonstrate they are incapable of the required improvement.
- 11.1.2. NWI Procurement manages the SPIP process with suppliers. Once a supplier is placed in SPIP, the supplier may become ineligible for new work until all issues are successfully corrected and sustained performance improvement is achieved.
- 11.1.3. For suppliers successfully recovering from performance issues, the supplier shall be taken out of SPIP and designated as probationary. Any recurrence of the same issues during the supplier's probationary period will result in the supplier being placed back in SPIP or considered for immediate termination.
- 11.1.4. Suppliers terminated from the ASL shall be required to participate in a supplier Assessment Audit prior to the supplier being considered for ASL approval reinstatement.

## **12. Section Twelve - References**

### **12.1. Referenced Documents**

- 12.1.1. AIA/NAS NAS412: Foreign Object Damage/Foreign Object Debris (FOD) Prevention
- 12.1.2. SAE AS/EN/SJAC9100 - Quality Management Systems – Aerospace - Requirements
- 12.1.3. SAE AS9102 - Aerospace First Article Inspection Requirement
- 12.1.4. SAE AS/EN/SJAC9110 - Quality Management Systems - Requirements for Aviation Maintenance Organizations
- 12.1.5. SAE AS/EN/SJAC9120 - Quality Management Systems - Aerospace Requirements for Stockist Distributors
- 12.1.6. SAE AS9003 - Inspection and Test Quality System
- 12.1.7. ISO 9001:2015 - Quality Management Systems – Requirements

### **12.2. Definitions and Acronyms**

- |         |  |   |
|---------|--|---|
| 12.2.1. | AS9102   | The SAE Aerospace Standard (AS) that establishes documentation requirements for the First Article Inspection  |
| 12.2.2. | AS9102 First Article Inspection                  | The SAE Aerospace Standard (AS) that establishes requirements for First Article Inspection. Method of gathering objective evidence to support that all design and specification requirements are properly understood, accounted for, and verified |
| 12.2.3. | Authorized or Responsible Quality Representative | A supplier employee that has the responsibility and authority to make authoritative statements for the supplier in association with part/material quality and process compliance  |

12.2.4.	Company ASL	NWI Approved Supplier List. Company Approved Supplier List is a subset of the NWI Approved Supplier List
12.2.5.	Certificate of Conformance	A statement of quality by the supplier that ensures all inspections and tests have been performed. It must be signed and dated by an authorized agent of the supplier with appropriate identification of the position held by the signer
12.2.6.	Corrective Action	Actions planned and implemented to eliminate or reduce the causes of a nonconforming product, process or service in order to prevent recurrence
12.2.7.	DFAR	Defense Federal Acquisition Regulation
12.2.8.	DPD	Digital Product Definition- The electronic data elements that specify the 3-D Computer Aided Design (CAD) geometry and all design requirements for a product (including notation and parts lists), and the use of this data throughout an integrated CAC/Computer Aided Manufacturing (CAM) and Coordinate Measurement Systems (CMS)
12.2.9.	Disposition	Engineering determination of the appropriate further actions associated with nonconforming parts/materials. Typical options include Scrap, Rework, Use as Is, etc.
12.2.10.	Supplier Corrective Action Request (SCAR) A request to a supplier for formal documented corrective and preventive action in response to a nonconformance or performance concern	
12.2.11.	Feature	Any hardware design attribute or characteristic. This includes physical portion of hardware such as a surface, face, edge, radius, hole, tab, slot, pin, etc., and requirements such as non-destructive inspection (NDI) and interchangeability and replaceability (I&R). All features require validation to conform the product to the design authority. All features have associated notes and/or Geometric Dimensioning and Tolerance Feature Control Frames (FCF) and one note or FCF may refer to several features
12.2.12.	First Article Inspection	The development of objective evidence to support that all engineering design and specification requirements are properly understood, accounted for, and verified
12.2.13.	GD&T	Geometric Dimensioning and Tolerancing

12.2.14. NC

Numerical Control

12.2.15. On-Site Supplier Assessment

An on-site review of a supplier's processes, systems, and capabilities as conducted by NWI personnel, Customer or regulatory authority



12.2.16. NoE	Notification of Escape
12.2.17. Pay for Source	NWI source inspection is required and the supplier is required to contract with a NWI approved service provider
12.2.18. Partial FAI	A Partial FAI addresses differences between the current configuration and prior approved configurations, and/or addresses features that failed the original FAI. When a partial FAI is performed, the Organization shall complete only the impacted fields in the original or partial FAI form(s). The partial FAI will inspect 100% only those features that have been addressed for the current configuration and/or that failed the original/partial FAI
12.2.19. Permanent Specification Change	A modification to any specified product requirement (blueprint, specification, etc.) as approved by the appropriate design authority which is unbounded by quantity or time
12.2.20. PO	Purchase Order
12.2.21. Process Change	Any change to the materials, methods, machinery, or location from that previously approved by NWI
12.2.22. Quality Assurance Requirements	A defined special purchase order condition relative to quality assurance needs for procured direct parts/materials or processing services
12.2.23. RAB	Registrar Accreditation Board
12.2.24. SPIP	Supplier Performance Improvement Program. The process used to address unsatisfactory supplier performance
12.2.25. SPR	Supplier Process Reviews - Periodic detailed on-site examination of the manufacturing processes, procedures, and controls used in the fabrication, assembly, inspection, and delivery of individual purchased parts/materials
12.2.26. SQAM001	NWI Supplier Quality Assurance Manual
12.2.27. SQPR	Supplier Quality Performance Rating – the NWI quantified measure of supplier performance
12.2.28. SQPR Report Scorecard	Monthly report detailing the performance rating (SQPR) for the supplier. This report consists of the Supplier Quality Rating and the Supplier Delivery Rating
12.2.29. Supplier Application	A Supplier Application provides an overall representation of a new Supplier’s business. It is the 1st step of the new Supplier approval process

- 12.2.30. Supplier Assessment  
A formal documented activity performed at a Supplier's facility by NWI personnel in order to assess compliance with targeted systems and measures of performance
- 12.2.31. Supplier-Responsible Nonconformance  
Any violation of a specified contractual requirement imposed by a NWI purchase order
- 12.2.32. Temporary Specification Change  
A modification to any specified product requirement (blueprint, specification, etc.) as approved by the appropriate design authority which is bounded by quantity or time
- 12.2.33. NWI ASL  
NWI Approved Supplier List
- 12.2.34. NWI  
NWI Aerostructures, Nashville, TN location
- 12.2.35. 3-D  
Three Dimensional

**12.3. Revision History**

<b>Revision Date</b>	<b>Description of Change</b>	<b>Effectivity</b>
A 2021	Complete update. Re-formatted and edited to reflect NW Supplier Quality Requirements	24 September
Greg Harden, Supplier Quality Engineer, NWI AERO-Nashville 2021		24 September