



DOCUMENT TYPE:

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Doc No: STA-QA-0333

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Page: 1 of 9

Title: **NWI Precision Supplier Quality Assurance Manual**

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**Revision History**

Rev	Amendment	Author	Date
-	Initial Release	K. Sherman	21-May-2020
A	Table 1: Added Level 7 and Level 8.	K. Sherman	04-Feb-2021
B	Table 1: Removed Level 8.	K. Sherman	08-Mar-2021
C	Added Sect. (6.3.6): auditing suppliers at regular intervals when required by customer. For MTU, NWI shall complete a self-assessment yearly. If the sub-contractor has already been subjected to an audit by MTU anytime during the last 12 months the requirement for a self-assessment to be conducted at the subcontractors may be waived.	K. Sherman	3-Jun-2022
D	Table 1: Added Level 8	K. Sherman	16-Mar-2023



Title: NWI Precision Supplier Quality Assurance Manual

1. Purpose

The purpose of this standard is to detail NWI Precision’s supplier quality assurance requirements. NWI Precision aerospace suppliers shall comply with this document and specific NWI Precision requirements and quality clauses during the life of procurement.

2. Table of Contents

1. Purpose.....2
2. Table of Contents.....2
3. Scope.....2
4. Definitions.....2
5. References.....2
6. Supplier System Requirements, Approvals and Evaluations.....3
7. Supplier Responsibilities .....5
8. Shipping and Deliverable Documentation Requirements.....8

3. Scope

The scope of this standard applies to all NWI Precision aerospace and commercial production suppliers. Table 1 of this document contains the applicability of NWI Precision’s Quality 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 Precision requirements.

In addition to the requirements contained in this document, the supplier shall comply with the quality requirements noted in the Contract Terms & Conditions and individual Quality Clauses (ref. STA-QA-0111) stipulated on NWI Precision Purchase Orders.

NWI Precision, 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 Precision, NWI Precision’s customers or Government Regulatory Agencies to examine and verify the quality of work, records, processes and material at any subcontractor’s facility, including the plant of the subcontractor.

4. Definitions

- ASL NWI Precision Approved Suppliers List

5. References

- ISO 9001 Quality Management Systems – Requirements
- ISO 17025 Testing and Calibration Laboratories - Requirements
- FORM-PUR-0362 NWI Precision Supplier Assessment Survey Form



DOCUMENT TYPE:

Standard

Doc No: STA-QA-0333

Revision: D

Date: 16-Mar-2023

Page: 3 of 9

Title: **NWI Precision Supplier Quality Assurance Manual**

- PRO-PUR-0056 NWI Precision Purchasing Procedure
- SAE AS9100 Quality Management Systems – Aerospace – Requirements
- SAE AS9003 Inspection and Test Quality Systems – Aerospace – Requirements
- SAE AS9120 Quality Management Systems – Aerospace Requirements for Stocklist Distributors
- STA-QA-0111 NWI Precision Quality Procurement Requirements and Clauses

## 6. Supplier System Requirements, Approvals and Evaluations

### 6.1. Overview

Aerospace suppliers shall implement and maintain a Quality Management System in accordance with the respective Quality System standards listed in Table 1 of this document, as appropriate for the type of product being delivered to NWI Precision. All costs associated with obtaining and maintaining appropriate Quality System approvals shall be borne by the supplier.

- 6.1.1. The supplier shall ensure that all personnel involved and performing work in support of an NWI Precision purchase order be made aware of:
  - 6.1.1.1. Their contribution to product or service conformity;
  - 6.1.1.2. Their contribution to product safety;
  - 6.1.1.3. The importance of ethical behavior.
- 6.1.2. The Quality Management Systems (QMS) identified in Table 1 shall be the standard used in determining eligibility for the NWI Precision Approved Suppliers List (ASL). Initial and subsequent periodic review of a supplier's QMS may be performed at the option of NWI Precision. Once added to the NWI Precision ASL, the supplier must continue to demonstrate an acceptable level of performance in order to remain eligible for new and ongoing business and to maintain their approved status.
- 6.1.3. The supplier shall notify NWI Precision within 48 hours of any of the following occurrences: supplier name changes, changes in ownership, facility changes or changes in senior quality management. Any of these changes may subject the supplier's Quality System to re-evaluation by NWI Precision.

### 6.2. New suppliers

- 6.2.1. Per the NWI Precision Purchasing Procedure, after completion of the Supplier Assessment Survey form, the submittal is reviewed by NWI Precision supply chain management, quality and engineering to determine if the prospective supplier is qualified to become an NWI Precision supplier.
- 6.2.2. Approval appraisals may be used to conduct a risk assessment of the supplier's capabilities, capacities, compliance, strengths and weaknesses. The method of appraisal is based upon the scope and criticality of the work to be performed.



DOCUMENT TYPE:

Standard

Doc No: STA-QA-0333

Revision: D

Date: 16-Mar-2023

Page: 4 of 9

**Title: NWI Precision Supplier Quality Assurance Manual**

**Table 1: Minimum Quality System Requirements**

Required Quality System Level	Applicable Minimum Quality System Standard	Supplier Description
Level 1	AS9100 or AS9003	Build-to-Print Manufacturers, Raw Material Suppliers
Level 2	AS9100 or Nadcap AC7004 or AS9003	Outside Special Processors
Level 3	AS9100 or AS9003 or ISO 9001	Tooling (Build-to-Print)
Level 4	ISO 9001 and AS9120	Commercial-Off-The-Shelf (COTS) and Distributors
Level 5	ISO 17025	Calibrations and Laboratories
Level 6	NWI Supplier Assessment Survey Form (FORM-PUR-0362)	Customer-Directed suppliers without 3 <sup>rd</sup> party registration
Level 7	1. This situation would require a risk assessment of the supplier performed by NWI. The product would require validation or verification by NWI or 3 <sup>rd</sup> party prior to production release.	1. Product is essential due to uniqueness of supply or significant commercial differences to alternatives 2. Distributor (agent) of product where the manufacturer is accredited (meets Level 1 – 6)
Level 8	Licenses or Certifications governed by statutory and regulatory requirements within their industries.	External providers that affect process, product, or service conformity

**6.3. Maintenance of Approved Supplier Status**

6.3.1. NWI Precision monitors supplier performance on a monthly basis using supplier quality and delivery performance ratings found in the NWI Precision Purchasing Procedure (PRO-PUR-0056) and listed herein:

Quality Performance

Supplier Quality Performance Ratings (SQPR's). SQPR's are the Suppliers demonstrated performance with respect to product quality (percentage of supplied materials / services which meet all specified requirements). For example: 1 piece nonconforming / 1500 pieces delivered = 99.93% first pass acceptance yield

The Supplier Quality Performance Rating is structured in the following manner:

100.0%-97.0% Green, Very Good Performance

96.9%-95.0% Yellow, Marginal Performance

**Title: NWI Precision Supplier Quality Assurance Manual**

<95% Red, Unsatisfactory Performance

The Supplier Delivery Performance Rating (SDPR) is structured in the following manner:

100.0%-95.0% Green, Very Good Performance

94.9%-90.1% Yellow, Marginal Performance

<90.00% Unsatisfactory Performance

- 6.3.2. Suppliers shall notify NWI Precision of the loss (probation/suspension/termination) of a Quality System registration or Nadcap approval within 48 business hours of the occurrence.
- 6.3.3. Suppliers that continuously demonstrate unsatisfactory performance may lose their approval status and become suspended or terminated. Suppliers may also lose their NWI Precision approved supplier status for failing to maintain their appropriate Quality System or Nadcap registrations or for any other significant quality related issues.
- 6.3.4. Supplier Capability Risk Assessments may be conducted to ensure a supplier's equipment, resources, technical and process capabilities are adequate to support NWI Precision's purchase order/contract requirements.
- 6.3.5. Supplier Product Conformity Assessments may be initiated if a significant change occurs in a supplier's facility, such as major management or capacity changes.
- 6.3.6. When required by a customer, NWI will monitor sub-tiers through audits at regularly scheduled intervals, either on-site or virtually using a self-assessment. For MTU, NWI shall complete a self-assessment yearly. If the sub-contractor has already been subjected to an audit by MTU anytime during the last 12 months the requirement for a self-assessment to be conducted at the subcontractors may be waived.

## 7. Supplier Responsibilities

### 7.1. Quality Assurance Requirements

- 7.1.1. NWI Precision PO's for direct parts or materials and outside processing normally include several additional clause(s) relating to specific quality assurance requirements. Applicable QA requirements or Quality Clauses may be assigned on a part number basis and are identified on NWI Precision's PO's (ref. STA-QA-0111).
- 7.1.2. Suppliers are expected to review all applicable Quality Clauses as part of their contract review and quality planning processes.
- 7.1.3. Acceptance of the NWI Precision purchase order constitutes acceptance and accountability for achievement of all requirements listed on the purchase order and the requirements contained within it. Lack of diligence on the supplier's behalf is not justification for not complying with the applied requirements.
- 7.1.4. NWI suppliers are responsible for management of their sub-tier suppliers and must flow down all quality clauses listed in NWI PO's to their sub-tier suppliers in accordance with



DOCUMENT TYPE:

Standard

Doc No: STA-QA-0333

Revision: D

Date: 16-Mar-2023

Page: 6 of 9

Title:

## NWI Precision Supplier Quality Assurance Manual

NWI Quality Clause #150. It is also the supplier's responsibility to request or obtain sub-tier supplier 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.

- 7.1.5. The supplier must obtain any agreements deviating from the issued purchase order in writing. No verbal agreements or emails 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 for deviation shall be forwarded to the NWI Precision purchasing representative (buyer) in writing for agreement or re-assignment of the purchase order.

### 7.2. Contract Configuration

- 7.2.1. Unless otherwise specified in the purchase order or contract agreement, manufacturing and inspection shall be performed to the latest NWI Precision released planning and engineering (travelers, Ops sketches and quality clauses). The supplier is authorized to work to the revision noted on the NWI Precision supplied sketches (where applicable) or to approved planning as stated on the PO.
- 7.2.2. 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, the NWI Precision procurement representative (buyer) should be notified immediately for written authorization. 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.

### 7.3. Special Process Requirements

- 7.3.1. When the use of only NWI Precision "Approved Special Processors" are specifically required by a drawing, specification or purchase order, the supplier shall ensure that the processing source for these requirements, including those performed by the supplier, are listed on the NWI Precision ASL prior to any processing of hardware.
- 7.3.2. NWI Precision approved aerospace special processors require Nadcap accreditation. All costs associated with Nadcap accreditation shall be borne by the processor. The Performance Review Institute (PRI) must perform all Nadcap accreditation audits.
- 7.3.3. A listing of all facilities being used by the supplier must be available for review by NWI Precision, which reserves the right of disapproval of those facilities not considered satisfactory. Suppliers shall not substitute their own or sub-tier process specifications for NWI Precision or customer process specifications without prior written approval from the NWI Precision buyer.
- 7.3.4. Being listed on the NWI Precision ASL does not assure or imply the quality of the work

**Title: NWI Precision Supplier Quality Assurance Manual**

performed by the ASL processor. When processes are procured, it is the responsibility of the supplier to verify all processes are performed in accordance with the specification requirements.

- 7.3.5. The processor shall review, perform, inspect and certify to the process specification as required by the purchase order. All required certificates of conformance provided by the processor and sub-tiers shall be signed by the Quality Assurance manager or their delegate from within the Quality department. Any departure from the specification requirement requires prior written approval from NWI Precision. The processor and sub-tiers shall also comply with any NWI Precision unique requirements such as submission of test coupons, written approval of the processor's procedures and witnessing of first part processing, when required by the process specification or the purchase order.

**7.4. Raw Material Requirements**

- 7.4.1. Prior to the first fabrication operation, the supplier is required to verify the correct material type and temper. Verification shall be accomplished by verifying the Material Certificate of Conformance test results during receiving inspection of the raw material, with evidence of the review indicated by a quality stamp.
- 7.4.2. The supplier's shop traveler/work order shall include traceability information of the raw material to the original heat lot and be stamped on the assigned operation.
- 7.4.3. No material substitutions are authorized without written approval by NWI Precision.

**7.5. Counterfeit Parts Avoidance, Detection, Mitigation and Disposition**

- 7.5.1. NWI Precision suppliers shall have a documented program in place to avoid, detect, mitigate, quarantine and disposition counterfeit parts and materials.
- 7.5.2. Suppliers shall also flow down counterfeit parts program requirements to their sub-tiers.

**7.6. Non-conforming Material Control**

- 7.6.1. Supplier-responsible non-conformances are defined as any violation of a specified contractual requirement imposed on an NWI Precision purchase order.
- 7.6.2. If NWI Precision supplied parts or material are found to be non-conforming upon receipt, the supplier is to notify the NWI buyer listed on the purchase order. The continued use of the parts or material without notification and written approval by NWI Precision constitutes the suppliers' acceptance of the part or material quality and any costs related to repair or replacement.
- 7.6.3. Upon identification of any non-conformance to NWI parts or processes, the supplier shall immediately notify the NWI buyer listed on the purchase order. Once NWI has been notified, the supplier is required to undertake immediate containment action to minimize or eliminate any further impact to NWI Precision and its' customers as a result of similar non-conformances, including product in-process, in the supplier's inventory, or in the process of delivery.
- 7.6.4. Suppliers shall provide a non-conformance report listing the details of the non-conformance along with the root causes and corrective actions for it and are expected to



DOCUMENT TYPE:

Standard

Doc No: STA-QA-0333

Revision: D

Date: 16-Mar-2023

Page: 8 of 9

**Title: NWI Precision Supplier Quality Assurance Manual**

participate in discussions with NWI Precision regarding appropriate disposition options. Final non-conformance dispositions shall only be decided by NWI Precision.

- 7.6.5. At the discretion of NWI Precision, suppliers may be subject to charges for recovery of costs associated with any/all supplier responsible non-conforming parts and/or materials. Additional charges may also apply where parts or materials supplied by NWI Precision require scrapping as a result of the supplier's actions.

**7.7. Notification of Escapes**

- 7.7.1. When a supplier identifies or becomes aware of a suspect product that has escaped from the supplier's facility to NWI Precision, the supplier shall immediately notify the NWI buyer listed on their PO and email them in writing within one business day. Product escapes are defined as any product that has been delivered to NWI Precision by a supplier that does not meet the NWI purchase order requirements.
- 7.7.2. Following notification, the supplier shall undertake immediate containment action to minimize or eliminate any further impact to NWI Precision and its' customers as a result of the escape, including product in-process, in the supplier's inventory, or in the process of delivery.
- 7.7.3. If it is immediately known, the supplier shall provide root cause and corrective action with the email notification to the NWI buyer. If it is not immediately known, the supplier shall provide it within 14 days or sooner.
- 7.7.4. NWI Precision may require additional detail information to support internal investigations and/or customer requests.

**7.8. Submittal of Manufacturing Plans for Critical Parts and Processes**

- 7.8.1. When required by the NWI Precision purchase order, submittal of manufacturing plans for critical parts and processes may be required for approval. If required, the supplier shall submit the manufacturing plan to the NWI buyer listed on the PO or to the NWI customer directly, as applicable.
- 7.8.2. Upon approval of the supplier's manufacturing plan, the plan shall be considered "frozen" and the supplier shall control all manufacturing, processing, testing and inspections as stated in the approved plan. No deviations, including the supplier's sub-tier suppliers and processors, are permitted without NWI Precisions' prior written authorization. Delivery of product is not permitted until the supplier has received approval of the manufacturing plan from NWI Precision.

**8. Shipping and Deliverable Documentation Requirements****8.1. Certificates of Conformance**

- 8.1.1. A Certificate of Conformance (CofC) provides written assurance that all work performed in connection with NWI Precision's purchase order conforms to all PO requirements.





DOCUMENT TYPE:

Standard

Doc No: STA-QA-0333

Revision: D

Date: 16-Mar-2023

Page: 9 of 9

Title:

## NWI Precision Supplier Quality Assurance Manual

- 8.1.2. The CofC content shall comply with the items listed in clause #180 of the Quality Procurement Clauses (STA-QA-0111). This clause is included on all NWI Precision purchase orders for aerospace production products.
- 8.2. Other deliverable documentation, such as First Article Inspection Reports and Dimensional Inspection Reports shall be required in accordance with the NWI Quality Clauses when the applicable clauses are listed on the NWI Purchase Order.
- 8.3. Packaging, packing, handling and marking of deliverable product shall be in accordance with NWI Quality Clause #260 and any requirements listed on the NWI PO.
- 8.4. Quality Records pertaining to NWI PO's shall be retained in accordance with NWI Quality Clause #220 listed on the PO.
- 8.5. The supplier shall implement, document and maintain a Foreign Object Damage (FOD) control program in accordance with NWI Quality Clause #100 listed on the PO and ensure all product shipped to NWI Precision is FOD compliant.