Supplier Product Acceptance
And Delivery Guide

SG-0101

7/13/15

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### Revision Record

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**Note** – All revisions are in Blue font

**Primary Change Summary**

Maintenance review, no updates to processes
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FOREWORD

SCOPE:

To provide guidance for supplier activities in performance of Sector purchase order requirements. This guide is recommended for use by suppliers for acceptance of hardware in preparation for Northrop Grumman source surveillance acceptance and subsequent delivery.

This guide establishes a minimal series of organized steps that are necessary to assure supplier compliance with SQAR.

Reference use of additional procedures and/or specifications may also be required to assure complete task compliance.

GENERAL:

Supplier Quality (SQ) representatives are responsible for ensuring supplier product validation; this validation is achieved by monitoring/witnessing supplier’s review of the purchase order, SQAR, associated technical information and applicable quality requirements. Additional tasks include, but are not limited to: Evaluation by monitoring and/or witnessing supplier’s performance at their facility of inspection practices, tooling and related activities, tracking of parts movement and status, constraint resolution; and provide technical assistance to resolve engineering issues and validation of supplier production prove articles, as it applies to first article and Interchangeability and Replaceability (I & R) product conformance.

Supplier inspection of product shall be verified for compliance to purchase order requirements by following the series of organized steps outlined in this document as applicable to specific program and product requirements.
PRODUCT VERIFICATION

The following sets of generalized topical segment steps are provided, as a guide, for Suppliers to conduct product/process/service verifications in preparation for submittal to Northrop Grumman source surveillance activity.

DOCUMENTATION

1. Document Review-General:
   a. As a minimum supplier should review the NGAS Purchase Order and associated technical and quality requirements for the following.
      i. Purchase order clauses, SQAR, quantities, and unique requirements.
      ii. Requirements peculiar to customer part number and planning (RCI)
          1. Engineering revisions/parts lists/bills of materials
          2. Configuration notes
          3. Tooling
          4. Electronic data
          5. Key Characteristics

FIRST ARTICLE ACCEPTANCE REQUIREMENTS

The purpose of the first article inspection is to provide objective evidence that all engineering design and specification requirements are properly understood, accounted for, verified and documented.

1. Complete the First Article Inspection Report (FAIR) in accordance with the latest revision of the SQAR.
2. Verify use of specified engineering, planning, tooling, specifications, etc. while reviewing the FAIR to assure 100% of these items are accounted for on the FAIR, to include the following characteristics, if specified:
   a. Drawing/Parts Lists/E.O. sheets/Revision/Digital Datasets
   b. Bills of Materials (required parts for assembly shall be listed)
   c. Dimensions
   d. All Specifications
   e. All required Processes
   f. Finishes
   g. General Notes
   h. Flag Notes
   i. Grain direction
   j. Materials (original mill test report/certifications/customer supplied tracker)
   k. Authorized material Substitutions
l. Any testing requirements
m. Buyer Planning
n. Buyer Tooling
o. Supplier Planning
p. Interchangeability or Replaceability (I & R) Requirements
q. Hardness/Conductivity (Should Be and Actual Results)
r. Use of Approved Special Processors (including in house processing)
s. Key Characteristics
t. Manufacturing Plan Approval/Qualification Approvals
u. Inspection Media (inspection tools, tooling, mylars, etc.)
v. Nonconformance Activity
w. Serial Number
x. Assemblies Include All Detail Part FAIR’s/Assembly requirements
y. Date Inspection was performed and by whom.
z. Certificates of Compliance from OEM/OCM/AAM or mitigation actions taken when not provided as required in SQAR.

DOCUMENTATION ACCEPTABILITY/TRACEABILITY

Quality documentation shall be part number traceable from the raw material throughout the planning, manufacturing, processing, inspection, testing, etc. to assure records have integrity. Supplier must be able to demonstrate that all quality records are complete and accurate, i.e. records are filled out in total and reflect actual results. Supplier verification of records shall include the following as a minimum depending on program/product applicability:

1. Manufacturing documentation (shop traveler) – All process specifications listed, including special processes (sequence critical).
2. Inspection plan (as required).
3. Qualification and manufacturing plans, as required by specification and/or SQAR, are approved (e.g. Designated, Fracture, Durability critical parts or Program Mission Equipment for castings, forgings, functional parts, composite parts and assemblies, etc.).
4. Inspection records for accuracy and completion.
5. Certificates of Compliance from OEM/OCM/AAM or mitigation actions taken when not provided as required in SQAR.
6. First Article Inspection Report in accordance with the latest revision of the SQAR.
7. Process certifications, i.e. heat-treat certifications, non-destructive testing, etc.

NOTE: Supplier must be able to demonstrate familiarity of primary specifications for any secondary specification references or requirements.
8. Use of Approved Special Processors to specified process code/specification (if performed in-house assure approval for specified process code).

9. Certificate of Compliance for Special Processes – evidence requires inspection results (S/B’s per specification/drawing and actual values), e.g. hardness/conductivity values, coating thickness, strength, etc.

10. Assurance that required NDT Process & Techniques approved per SQAR and/or specification.

11. Copy of Original Mill Test Report Certification/NGAS reference document on provided materials. Copy of certification must be readily retrievable. Supplier must demonstrate that raw material documentation is traceable to their manufacturing documentation.

   Note: Sampling to validate hardness and conductivity is required.

12. Authorizing documentation to support material substitutions.

13. Test samples have been identified, correctly processed and tested when required.

14. Non-conforming material report activity

15. SPC charts and/or Key Characteristic verification

16. Shipper complies with SQAR requirements

17. Manufacturing Plans (Critical Parts – Fracture/Fatigue/Durability, etc.) are approved and fully complied with.

18. Data Item Description (DID)/Supplier Data Requirements List (SDRL) that require NGAS approval (e.g. O/L drawings, ATP, QTP, Qual Test Results, etc.) have been approved.

19. F/A-18 Program Fracture Critical Requirements:
   a. For seller furnished material, a copy of the raw material certification(s) shall be submitted.
   b. Verifies that a completed Traceable Parts Data Input (Form 27-835) for each serialized part is included in the shipment.
   c. Verifies raw stock identification, including test coupons, is traceable to the serialized forgings per 74A900053 and 74A900054.
   d. Ensures raw stock or machined part mechanical properties and fracture toughness test results meet the minimum engineering, material or procurement specification requirements, including prescribed test coupon orientation.
   e. Verifies test parameters for mechanical properties or fracture toughness are per the applicable engineering requirements, (sample lots or 100% verification)
   f. Verifies raw stock and/or machined part serial numbers contain the correct designated alpha codes per 74A900053 or 74A900054.
g. Verifies terms “Fracture Critical” or “Fracture Critical Traceable” are prominently displayed on all manufacturing planning, shipping documents, certifications, NDT procedures, and supplier purchase orders to sub-tier suppliers.

h. Verifies Engineering First Article examination has been accomplished, if required by the engineering drawing.

NOTE: The above requirements are applicable to critical parts procured at the detail level or contained within an assembly.

20. For SQAR codes C, and E, verify completion of NGAS Form P0-F165, Supplier Certificate of Compliance, in accordance with instructions provided with the form. NOTE: Process specifications utilized, only need to be included once on this form, per location, where the work was performed.

21. Demonstrate compliance to program specific guidelines as prescribed in SQAR section 3.

FAI PRODUCT VERIFICATION

Supplier shall demonstrate that product is inspected in accordance with this guide as well as commodity unique requirements.

PRODUCT VERIFICATION

1. General
   a. Visually checks for damage, identification (100%). NOTE: Parts with an orientation identification requirement, i.e. FWD, AFT, INBD, Grain Direction, etc. is checked to assure marking location meets the drawing requirements. Part marking per the engineering, specification and/or SQAR as applicable, such as:
      i. Part number
      ii. Serial number
      iii. Dash number
      iv. Revision level
      v. Date of manufacture
      vi. Supplier acceptance stamping
      vii. Supplier name or code

   NOTE: NGAS identification requirements are only required on deliverable product and loose kit details. Detail parts and components installed in an assembly or sub-assembly should be identified in accordance with the supplier’s procedure(s), unless otherwise specified on the engineering drawing.

2. Conducts actual part inspection, as applicable

3. F/A-18 Fracture Critical requirements:
   a. Verifies part number, raw stock, and finished machine part and own serial numbers are ink stamped per engineering drawing requirements.
   b. Ensures “Fracture Critical” or “Fracture Critical Traceable” is applied to
the hardware per engineering drawing and machine part serial/dash number combination has been electrochemically etched per process specification.

4. Utilizes ICF’s, inspection aids and tooling, when applicable.
5. Checks for part marking and serialization, when applicable

**PROCESS FLOWS**

1. General:
   a. Checks specifications that may include “hidden” process, i.e. those referenced within the body of specifications or referenced on the engineering drawing, to make sure all applicable specifications have been identified and performed.
   b. Verifies that process steps have been performed in the proper sequence.
   c. Demonstrate that all processes are/were accounted for on the manufacturing plan/shop traveler or production paperwork during initial quality planning.
   d. Verifies that process sources or in-house techniques are approved, as applicable.

**DIGITAL MEDIA**

1. General:
   a. The supplier is required to declare and demonstrate the use and source of all digital data used during the manufacturing and inspection operations. Refer to the Supplier Quality Assurance Requirements (SQAR) Supplement for the Control and Use of Digital Datasets for specific requirements.

2. Specific:
   a. Demonstrates source and type of supplier utilized digital media (disc, tape, etc) that was used for manufacturing or inspection of parts.
   b. Verifies that customer furnished digital media is controlled and/or released in accordance with specific program requirements.
   c. Demonstrates that media used for product acceptance is independently generated from engineering data and when required, that it shows objective evidence of customer acceptance, as well as, supplier acceptance.
   d. Demonstrates that approved data for product acceptance is being used.
   e. Demonstrates that FAI documentation references use of customer supplied digital data, as required.
   f. Demonstrates use and/or request for use of technical data, via Numerical Data Request (NDR), Inspection Data Request (IDR), Numerical
Model Data, Quality Assurance Inspection Data (QAID) to produce and inspect the finished product.

**SQ SUPPLIER INSPECTION STATUS**

1. General:
   a. All externally (supplier) manufactured contract deliverable articles, i.e. materials, (including age and temperature sensitive); processes; parts and assemblies (both functional and nonfunctional) are verified by SQ personnel when required by purchase order.
   b. The supplier’s authorized quality representative is contractually directed to apply their appropriate stamp or authorized signature (electronic signature is acceptable) to their Packing Sheet/Certification of Conformance/Inspection document, or NGC Form Q0-F045, Certificate of Source Inspection Acceptance when utilized.
   c. SQ personnel, upon satisfactory demonstration by supplier’s representative of acceptance of deliverable article(s) will apply their acceptance stamp and the current calendar date on the supplier’s Packing Sheet/Shipper, or Form Q0-F045, Certificate of Source Inspection Acceptance when source inspection of supplier’s complete manufacturing lot has occurred, in-lieu of source inspection of individual partial shipments. Tooling acceptance shall be denoted by SQ acceptance stamping the tooling identification plate and associated paperwork.

**SQ RECORD OF SUPPLIER INSPECTION STATUS**

1. General:
   a. SQ personnel shall initiate and maintain the Supplier Part Historical Record database (SPHR), for documenting Inspection activities associated with each item on the purchase order. Older hard copy Supplier Part Historical Record’s (P0-F012 forms prior to 10/30/06) will be maintained and available at the supplier’s facility.
   b. SQ personnel shall review the SPHR database (and older P0-F012 forms) prior to performing any hardware acceptance activities.
   c. Supplier successful FAI’s shall be documented in the SPHR database, verification that the supplier has not changed their manufacturing process, after successful FAI, is required.