This document includes all Quality Assurance Provisions and definition available for inclusion on purchase orders and subcontracts issued by Northrop Grumman Innovation Systems (NGIS).

Only those Quality Assurance Provisions cited in the body of the purchase order are made a part of the purchase order by reference.

Articles defined in the purchase order will not be accepted if certifications, documentation, test data, or reports specified on the Purchase Order are not submitted.

These Quality Assurance Provisions apply when specified on purchase orders originally issued on or after the most recent effective date in the Record of Changes. Unless otherwise specified in the purchase order, purchase orders issued prior to that date should use the Quality Assurance Provisions in effect at the time of the original purchase order was issued.

**Record of Changes**

<table>
<thead>
<tr>
<th>Rev</th>
<th>Date</th>
<th>Description of Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>New</td>
<td>4/1/2010</td>
<td>Initial Release</td>
</tr>
<tr>
<td>A</td>
<td>5/24/10</td>
<td>Revised Division name as part of re-organization of ATK</td>
</tr>
<tr>
<td>B</td>
<td>4/21/15</td>
<td>Revised Division name as part of Orbital ATK merger; Add 23QC15 Repair/Rework Quality requirements</td>
</tr>
<tr>
<td>C</td>
<td>7/10/18</td>
<td>Revised 23QC-1, added (If Seller is not a manufacturer (or service provider), in addition to the Seller’s C of C, the following shall also be included: a. A manufacturer’s (or service provider’s) C of C b. A Certificate of Conformance with supply chain traceability or a certificate of conformance that provides evidence that the parts were obtained directly from the Original Component Manufacturer (OCM), approved manufacturer or authorized distributor.) Added 23QC-16, 23QC-17, 23QC-100, 23QC-200 AND 23QC-300 Changed F-840-012-SC to F-840-012-MA Updated logo and Northrop Grumman company name change.</td>
</tr>
<tr>
<td>D</td>
<td>6/13/19</td>
<td>Added e. 23QC-10 TEST/INSPECTION DATA to 23QC-300 QUALITY CLAUSE GROUP THREE.</td>
</tr>
</tbody>
</table>
23QC-1: CERTIFICATE OF CONFORMANCE

CERTIFICATE OF CONFORMANCE (C of C): Shipment made against this Purchase Order (P.O.) must contain a Certificate of Conformance, signed by an authorized agent of the company, attesting that all applicable specification, drawing and P.O. or Work Order requirements have been met. The Certificate of Conformance must include the P.O. number, the Northrop Grumman part number and revision letter (listed on the P.O.), the quantity of pieces in the shipment, the serial number and/or date code, as applicable. Data supporting the Certificate of Conformance must be on file subject to review by Northrop Grumman.

a. Name of manufacturer
b. Purchase Order Number and if applicable the release number.
c. Item name and identification number(s) (i.e. Part Number, Lot Number, Serial Number)
d. Applicable Drawing/Specification number(s) and Revision Letter
e. Authorized waivers or changes
f. The Certificate of Conformance shall carry a statement to the effect that:

"We hereby certify that the Materials/Products/services furnished in this order were made or performed in accordance with and conform to the applicable specification(s) and/or drawing(s) as stipulated in Northrop Grumman Purchase Order."

If Seller is not a manufacturer (or service provider), in addition to the Seller’s C of C, the following shall also be included:

a. A manufacturer’s (or service provider’s) C of C
b. A Certificate of Conformance with supply chain traceability or a certificate of conformance that provides evidence that the parts were obtained directly from the Original Component Manufacturer (OCM), approved manufacturer or authorized distributor.

23QC-2: ACCESS FOR FACILITY AUDIT AND SURVEILLANCE

ACCESS FOR FACILITY AUDIT AND SURVEILLANCE: During performance on this order, supplier’s Quality Control, Inspection System and Manufacturing Processes are subject to review, and surveillance by authorized representatives from Northrop Grumman and our customer’s organization.
23QC-3: GOVERNMENT SOURCE INSPECTION

Government inspection is required prior to shipment from your plant. Upon receipt of this order, promptly notify the Government Representative who normally services your plant so that appropriate planning for Government Inspection can be accomplished. In the event the representative or office cannot be located, our purchasing agent should be notified immediately.

23QC-4: SOURCE INSPECTION/TEST

Northrop Grumman’s Source Inspection / Test is required prior to shipment from your facility. Notify the Northrop Grumman buyer seven (7) working days in advance of when inspection is needed. Inspection equipment (gages, templates, jigs, etc.) personnel must be available for Northrop Grumman Mission Assurance Representative to perform source inspection. Verification by the customer shall not be used by the organization as evidence of effective control of quality by the supplier and shall not absolve the organization of the responsibility to provide acceptable product, nor shall it preclude subsequent rejection by Northrop Grumman.

23QC-5: ISO 9001

ISO 9001 APPLIES TO THIS P.O. OR WORK ORDER: The supplier of this purchase order is required to comply with the requirements of ISO 9001. The supplier shall maintain records of all purchase orders requiring this requirement clause for a period of at least 4 years.

23QC-6: INSPECTION SYSTEM

The supplier shall provide and maintain a documented inspection system which will assure that all supplies and services submitted to the Northrop Grumman for acceptance conform to Purchase Order requirements whether manufactured or processed by the supplier, or procured from subcontractors or vendors.

The inspection system is to include as a minimum, a calibration system, document and record control, inspection result records, control of nonconforming products, and a corrective action system.


23QC-7: GOVERNMENT REVIEW OF PERFORMANCE

During performance of this order, your Quality Control, Inspection System, Manufacturing Processes, Inventory control and traceability documentation are subject to review and verification by authorized Government Representatives. Government inspection, prior to shipment is not required unless you are otherwise notified. You shall provide a copy of this order to your Government Representative upon his request.

23QC-8: CERTIFICATE OF ANALYSIS

CERTIFICATE OF ANALYSIS is required on type of Material/Product we have ordered as indicated below. This certificate must be sent prior to or with the shipment of the product to the Northrop Grumman Integrated Systems, Attention: Mission Assurance Receiving.

A. Rubber, composite, cements, etc.
B. Fabricated/machined items (fixtures, bead seat/clamp castings, special bolts/screws, etc.)

This Certificate must contain the following information (if applicable):

a. Name of Manufacturer.
b. Purchase Order Number, and if applicable, the release number.
c. Material name, date of manufacture and identification number (i.e. lot number, heat number etc.).
d. Ingredient material name, expiration date and identification numbers (i.e. lot number, batch number etc.).
e. Applicable Drawing/Specification number(s) and Revision Letter.
f. Authorized waiver or changes.
g. The Certificate of analysis shall carry a statement to the effect that:

"We hereby certify that the Materials furnished on this order were made in accordance with and conform to the applicable specification(s) and/or drawing(s) as stipulated in Northrop Grumman Purchase Order. Chemical, mechanical, and physical test results are as follows or attached."

The Certificate of Analysis must include the signature and position of an authorized agent of the company.
23QC-9: CERTIFICATION OF PROCESS

CERTIFICATION OF PROCESS: Supplier must submit a statement attesting that processes such as welding, x-ray, magnetic particle inspection, penetrant inspection, heat treating, soldering, plating, anodizing etc., satisfy the requirements of applicable specifications (including, where applicable, certification of process personnel.) Specify quantity of parts in shipment. Records substantiating the foregoing must be available for examination by Northrop Grumman.

The Certification of Process must include the signature and position of an authorized agent of the company.

23QC-10: TEST/INSPECTION DATA

TEST/INSPECTION DATA: Supplier shall perform test and/or inspection and supply data for the drawing paragraphs, Process Specifications, engineering bulletins and Northrop Grumman approved acceptance test procedures specified on the Purchase Order. Test/Inspection data must be identified with Northrop Grumman part number and unit serial number, or other suitable identification terminology, to the individual unit level used to identity test/inspection characteristics on the data sheet. Actual readings are to be supplied for all quantitative measurements. Notations that readings are within specifications limits or that tests have been satisfactorily performed will be acceptable only for those tests performed on automatics or go/no go equipment lacking quantitative read out capability. All automatic hardware and software tests are subject to validation - including fault insertion by Northrop Grumman.

The Test/Inspection Data must include the acceptance identification of an authorized agent of the company.

23QC-11: DESTRUCTIVE ANALYSIS SPECIMENS

DESTRUCTIVE ANALYSIS SPECIMENS: Suppliers shall supply one specimen (configuration to be specified by Northrop Grumman) with each lot shipped for destructive testing of applied coatings/plating’s/finishes, etc. This specimen shall have been processed by supplier with the lot it represents. Prominently identify specimen and mark packing slip “DESTRUCTIVE ANALYSIS SAMPLE ENCLOSED”.

23QC-12: MATERIAL PACKAGING

Material shall be packaged in a manner to prevent damage or deterioration. Unless otherwise specified, best commercial/industry practice is acceptable for use. The supplier is responsible to ensure the product will be shipped and arrive at Northrop Grumman in an acceptable condition.
23QC-13: FIRST ARTICLE INSPECTION (FAI)

FIRST ARTICLE INSPECTION (FAI): First Article Inspection (FAI) is required prior to shipment from your facility. Notify the Northrop Grumman buyer fourteen (14) days in advance of date when material is ready for FAI. This inspection will entail the item or assembly including its component parts and associated software, i.e., blueprints, operation sheets and any other pertinent data related to its conformance to workmanship standards and contract requirements. The end item will be identified as a First Article part and will be packaged separately from the remaining lot shipped. A First Article Inspection Report will accompany the First Article part when shipped to Northrop Grumman.

Northrop Grumman reserves the rights to witness and/or verify FAI at the supplier’s facility. Material identified as ready for FAI, including drawings, work instructions, software, hardware, etc., which is not available during FAI, will cause the supplier to be liable for all expenses incurred by Northrop Grumman Mission Assurance for travel, time, and per diem if Northrop Grumman selects to witness the FAI.

23QC-14: CALIBRATION

CALIBRATION: Supplier shall comply with an acceptable calibration system with traceability of calibration standards to N.I.S.T. (Reference MIL-STD-45662 or ISO-10012 for guidance).

23QC-15: REWORK OR REPAIR REQUIREMENTS FOR ELECTRONIC ASSEMBLY

REWORK OR REPAIR REQUIREMENTS FOR ELECTRONIC ASSEMBLY: Any rework or repair that was accomplished to the electronic assembly by the supplier must be documented and a copy of the documentation is to be provided with the shipment of the electronic assembly. Documentation includes, but is not limited to: (1.) Failure Report & Analysis; (2.) Action taken to correct/repair the discrepancy; (3.) Acceptance Test Procedure (ATP) report; and, (4.) Certificate of Compliance or FAA form 8130 indicating the electronic assembly was reworked or repaired in accordance with applicable OEM requirement(s).

The electronic assembly shall be packaged in a manner to prevent ESD and physical damage to the electronic assembly during handling and shipping.

23QC-16 COUNTERFEIT PARTS RISK MITIGATION

Supplier shall not furnish to Northrop Grumman any material/product under this contract that are an unauthorized copy, imitation, substitute, or modified part, which is knowingly misrepresented as a specified genuine part of an original or authorized manufacturer.
23QC-17 AIRCRAFT-RELATED SUBCONTRACTORS AND SERVICE PROVIDERS

Subcontractors shall provide service to Northrop Grumman as applicable.

  a. Service to be accomplished in accordance with CFR Parts 21, 25, 91 and 145 as appropriate.
  b. All data used for design, installation and/or maintenance shall be FAA approved.
  c. FAA Form 337, aircraft logbook entry for maintenance, installations and or modifications must be provided to Northrop Grumman and/or entered into the aircraft’s records upon completion.
  d. Aircraft shall be received, by Northrop Grumman, in a Standard Airworthiness configuration after modification.
  e. All subcontractors must complete “Northrop Grumman Subcontractor Surveys” and submit all required documents as requested.

23QC-100 QUALITY CLAUSE GROUP ONE

Quality Clause Group One consist of:

  a. 23QC-1 CERTIFICATE OF CONFORMANCE
  b. 23QC-6 INSPECTION SYSTEM
  c. 23QC-12 MATERIAL PACKING

23QC-200 QUALITY CLAUSE GROUP TWO

Quality Clause Group Two consist of:

  a. 23QC-1 CERTIFICATE OF CONFORMANCE
  b. 23QC-6 INSPECTION SYSTEM
  c. 23QC-12 MATERIAL PACKING
  d. 23QC-16 COUNTERFEIT PARTS RISK MITIGATION

23QC-300 QUALITY CLAUSE GROUP THREE

Quality Clause Group Three consist of:

  a. 23QC-1 CERTIFICATE OF CONFORMANCE
  b. 23QC-6 INSPECTION SYSTEM
  c. 23QC-8 CERTIFICATE OF ANALYSIS
  d. 23QC-9 CERTIFICATE OF PROCESS
  e. 23QC-10 TEST/INSPECTION DATA
  f. 23QC-12 MATERIAL PACKING