This document includes Quality Assurance Provisions available for inclusion on purchase orders and subcontracts issued by NGC. Other Quality Assurance Provisions that supplement this document may be also called out in the purchase order.

Only those quality assurance provisions cited in the body of the purchase order, whether or not contained within this document, are made a part of the order by reference.

Articles defined in the purchase order will not be accepted if certifications, documentation, test data, or reports specified herein 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 (page 2). Unless otherwise specified in the purchase order, purchase orders issued prior to that date shall use the Quality Assurance Provisions in effect at the time the original purchase order was issued.
## Record of Changes

<table>
<thead>
<tr>
<th>Date</th>
<th>Change</th>
<th>Released By</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/8/2010 (Initial release)</td>
<td>Change QAP numbering from MSGQXXX to 01QXXX</td>
<td>W. Dugan</td>
</tr>
<tr>
<td>6/8/2010</td>
<td>Added QAPs 01Q000B, 01Q002E &amp; 01Q004A. Amended 01Q010-, 01Q011-, 01Q015-, and 01Q016-series QAPs, to allow computer-generated “signatures” Revised the 01Q021-series to remove duplicated requirements.</td>
<td>W. Brownell</td>
</tr>
<tr>
<td>2/8/2011</td>
<td>Added QAPs 01Q025 and 01Q025A</td>
<td>W. Brownell</td>
</tr>
<tr>
<td>6/28/2011</td>
<td>Reformatted 01Q021-series and added requirement to include PO number</td>
<td>W. Brownell</td>
</tr>
<tr>
<td>11/16/2012</td>
<td>Changed 01Q000 to exclude COTS parts; updated 01Q004, 01Q004A, 01Q009, 01Q012, 01Q017, 01Q017B; added 01Q005A, 01Q007D, 01Q010B, 01Q010C, 01Q010D, 01Q026</td>
<td>W. Brownell</td>
</tr>
<tr>
<td>4/22/2014</td>
<td>Revised 01Q000A to add paragraph on re-use of Orbital ATK-supplied packaging and clarify limits on supplier repair; added single lot requirement to 01Q021C; 01Q022 rewritten to assure end-to-end traceability of drop-shipped and Orbital ATK-supplied product; 01Q025A rewritten to provide verbatim text of DFARS 252.225 §7014 Alt 1 (superseded in 2009)</td>
<td>W. Brownell</td>
</tr>
<tr>
<td>5/19/2015</td>
<td>Update 01Q000A section on Discrepant and Nonconforming Articles to allow for immediate submittal of NC while allowing time to conduct RCCA process; added new QAP 01Q010E; globally changed references from ATK or Alliant Techsystems to Orbital ATK</td>
<td>W. Brownell</td>
</tr>
<tr>
<td>8/20/2015</td>
<td>Revise 01Q000 to clarify approval requirements for changes discussed in Terms/Conditions TC-01 and TC-04. Revise 01Q024 to add ANSI-Z540-3 and ISO 17025, and to allow for equipment manufacturers not compliant with a formal calibration system to perform calibrations upon approval by Orbital ATK.</td>
<td>W. Brownell</td>
</tr>
<tr>
<td>5/19/2016</td>
<td>Added 01Q027 Electronic COTS</td>
<td>F.N. Johnson Jr.</td>
</tr>
<tr>
<td>Date</td>
<td>Changes</td>
<td>Authors</td>
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<td>----------------------------------------------------------------------------------------------------------------------------------------</td>
<td>----------------------------------</td>
</tr>
<tr>
<td>10/29/2018</td>
<td>Updated 01Q005A to clarify approvals. Added 01Q028 Supplier Assessment. Changed company name from Orbital ATK to NGIS. Updated 01Q004, 01Q005, 01Q007, 01Q007A, and 01Q007B. Document formatting.</td>
<td>G. Allen</td>
</tr>
<tr>
<td>8/26/2019</td>
<td>Updated 01Q005 for inspection plan approvals. Combined 01Q016B into 01Q005A NDT requirements. Called out AS9102 requirements in 01Q007, eliminating obsolete paragraph reference. Added clarification for supplier’s inspection report in 01Q007B.</td>
<td>L.K. Hartwell</td>
</tr>
<tr>
<td>2/13/2020</td>
<td>Updated 01Q010, 01Q010A, 01Q010B, 01Q010C, 01Q010D, 01Q011, to include quantity requirements, and added 01Q010F Update 01Q007B section, clarifying one piece lot inspection. Update 01Q024, added ISO 10012. Update 01Q000A, Changed “materiel” to “material” in two places. Update 01Q022, removed form AD-005 from the list. Update 01Q023A, removed revisions from specs, and deleted web site address to WARP. Updated 01Q027. No N/A to date codes allowed, and deleted revision from MIL-PRF-81705. Added QAP 01Q027A Electrostatic Discharge Sensitive Device Protection Update 01Q028, removed references to “OA”, and revised Scope. Changed company name from NGIS to NGC.</td>
<td>D. Kellerman/ N. Opoku</td>
</tr>
<tr>
<td>7/22/2020</td>
<td>TOC-Revised titles for 01Q005, 01Q005A and added 01Q007E. Updated 01Q004 to clarify and reinforce the idea that approvals are required for each new PO. Changed “should” to “shall”. Added “and approval” and “for this purchase order”. QAP page i (4th paragraph), 01Q003 (3rd sentence) and 01Q027 (Electrostatic Discharge paragraph). Changed “should” to “shall”. Clerical updates to 01Q007B and added “on selected parts being sampled.” Added, “Parts manufactured per purchase order line item with minor characteristics on the drawing shall be sample inspected”. Updated 01Q005A title Added 01Q007E, 100% Inspection</td>
<td>D. Kellerman / N. Opoku</td>
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**01Q000, No Process Change Policy**

This clause supplements the Product Changes/ Part Obsolescence clause of the Purchase Order Terms and Conditions:

Upon notification of product changes as required by the Product Changes/ Part Obsolescence clause of the Purchase Order Terms and Conditions, NGC will provide written acknowledgement of the notification, and when processes are approved by NGC (e.g. by incorporation of 01Q005 or 01Q005A in the purchase order), approval of the change.

Notwithstanding NGC approval of changes to processing or inspection parameters, the supplier remains responsible for meeting all purchase order requirements.

This clause does not apply to "Commercially available off-the-shelf (COTS) items" as defined in FAR 2.101, Definitions.

**01Q000A, General Quality Assurance Provisions**

This document establishes general requirements for product assurance that are applicable to items ordered under the purchase order of which these provisions form a part. These provisions are intended to assure that the procured items meet the quality and reliability requirements of NGC and our customer, and apply unless expressly excluded or superseded in the purchase order. Additional Quality Assurance Provisions (QAPs) may also apply as designated in the purchase order.

**Foreign Object Damage Prevention (FOD)**

The supplier shall ensure that Foreign Object Damage (FOD) is controlled with the aim of preventing damage or degradation of the deliverable item, or of creating a hazardous condition to users of the deliverable item. Techniques that have been proven effective for control of FOD include: proper housekeeping; control of tools, personal items, and facilities; control of in-process hardware and consumables, including in-process scrap; kitting; and use of parts protective equipment.

**Correspondence**

All correspondence relating to particular articles shall reference the specification(s) and/or drawings(s) (including number and revision) and the purchase order number. All correspondence shall be directed to the procurement division of NGC.

**Conflict in Instructions**

In the event of apparent conflict among the purchase order provisions, the supplier shall obtain clarification from the procurement division of NGC as to the exact interpretation of requirements. Failure to obtain clarification may subject the procured articles to rejection.
Responsibility for Compliance

The inspections set forth in the drawings and specifications shall become part of the supplier’s overall inspection system or quality program. The absence of any inspection requirements in the drawings or specifications shall not relieve the supplier of the responsibility of assuring that all products or supplies submitted to NGC for acceptance comply with all requirements of the purchase order. Sampling in quality conformance does not authorize submission of known defective material, either indicated or actual, nor does it commit NGC to acceptance of such defective material.

Supplier Qualification

Upon NGC acceptance of first article inspection or first piece(s) inspection (as required), supplier is restricted to use only those suppliers of materials, components and services (i.e., sublet machining, molding, forming, etc.) that participated in the initial contract qualification. Supplier's quality program shall maintain a listing of these suppliers, corresponding to the product or service they provide, including the associated drawing or specification by which the material or service is controlled. At time of purchase, the supplier's quality program shall assure that only those suppliers who are qualified and contained in the listing are used for follow-on purchase.

Any change in supplier participation that deviates from these qualified suppliers shall be requested in writing from NGC.

Special Tooling and Special Gages and Equipment

Special tools and special gages and equipment which are used for dimensional control and acceptance in lieu of inspection by standard methods or standard gages and equipment shall be designed and maintained to assure repetitive compliance to governing drawings within the specified tolerance zone(s) of the dimension(s) being controlled or accepted.

Final Acceptance at NGC

Acceptance will be based on inspections performed at NGC facilities. NGC reserves the right to reject shipments that are found defective as a result of sampling.

Discrepant and Nonconforming Articles

The supplier is not granted material review board (MRB) privileges on this purchase order/subcontract. Nonconforming articles shall be withheld from subsequent manufacturing operations until written authorization for use or shipment is received from NGC. Unless authorized in writing by NGC, repairs utilizing any process or equipment not used in the normal manufacturing process for the item/material are strictly prohibited. Examples include but are not limited to:

1. Weld repairs where welding is not part of the normal process;

2. Using plating or chemical etching to modify component dimensions if not part of the normal process;

3. Installing plugs, bushings, thread inserts, etc. when not specified on the drawing.
Requests to use or deliver nonconforming material will be made to the buyer. The request shall include complete details of the discrepancy. An explanation of the root cause, and a statement of the corrective action proposed to prevent recurrence will be submitted with the request or within a reasonable time thereafter.

If a Quality Assurance Representative (QAR) is servicing the supplier's facility, the QAR will review the request prior to submittal for clarity of discrepancy. The QAR should review root cause and corrective action proposals prior to submittal.

Upon completion of material review board consideration, Buyer will forward the disposition to the supplier. If the buyer authorizes further processing of the discrepant material, the supplier’s records and the certification package will reference and include a copy of such authorization. No discrepant material will be shipped by the supplier, except with the buyer’s written authorization.

**Resubmission of Rejected Articles**

All articles, including associated documentation, rejected by NGC and subsequently reworked to drawings, specifications, etc., shall bear indication of each resubmission. The accompanying documentation (discrepancy report, corrective action report, re-inspection data, etc.), as required, shall be identified in the same manner as the article. The supplier shall contact the NGC procurement division for identification of articles submitted as replacement(s) for NGC rejected and supplier scrapped articles.

**Packaging**

When the drawing, specification, or purchase order lacks specific packaging instructions, the supplier shall use best commercial practices to ensure that the quality of the delivered part(s) is maintained and that damage, deterioration, and loss in transit are prevented.

Any packaging supplied by NGC shall be reused to the maximum extent possible. If supplied packaging is degraded or cannot be re-used, the material supplied on this order shall be packaged as specified elsewhere in this order. Damage to specially-fabricated shipping containers shall be reported to the buyer before any repair is attempted.

Packaged items shall be free of dirt and other contaminants that would contribute to deterioration of the item or which would require cleaning by NGC prior to use. Items susceptible to corrosion or deterioration shall be provided protection such as preservative coatings, volatile corrosion inhibitors, or a desiccated environment. Items requiring protection from physical and mechanical damage, or which are fragile, will be protected by wrapping, cushioning, or other means to mitigate shock and vibration, and to prevent damage during handling and storage. Cushioning or wrap can be any suitable, appropriate material; except newspapers may not be used when painted surfaces are involved. Partitions or divisions must be used when necessary.

Items susceptible to damage by Electrostatic Discharge (ESD) shall be packaged in antistatic bags of conductive carbon (“black poly”) or antistatic bags per MIL-PRF-81705 Type III. All external and internal packaging shall be properly identified with “ESD Sensitive Item” labels.
Transparent “pink poly” bags or material shall not be used where the material can come into direct contact with the product.

**Failure Report**

NGC will be notified within 24 hours of any material, component, tooling, or motor case failure during manufacturing or testing. In addition, the supplier will submit to NGC written failure reports within 72 hours of any failure. Failure reports will identify the failed item by serial number, part number and applicable revision letter.

The supplier will submit a failure analysis and corrective action report to NGC within 15 days of any failure. The report will include, as a minimum, the mode of failure, cause of failure, corrective action to be initiated, and a list of other parts affected.

**Documentation Retention**

The supplier will maintain records necessary to show conformance with all requirements of the purchase order/subcontract. These records include dimensional inspection records, process control charts, temperature recorder charts, x-ray film, nondestructive testing records, personnel certification documentation, nonconformance reports, process qualification data, hydrostatic test records, and certifications of materials and special processes. These records will be maintained for the greatest of:

- A period as required by the contract;
- Seven (7) years;
- The shelf/use life specified by the drawing or procurement specification.

**01Q000B, Quality Record Forms Required**

Quality records are an integral part of the purchase order. They are created by NGC and flow down specific requirements for inspection reporting, and certification / documentation. Each delivery of components/materials against the Purchase Order (PO) must be accompanied by a fully completed and signed Quality Record form. This form and any required certifications must be included with each shipment. Note that no alterations are permitted to the Quality Records forms. Every line item must be completed. Initialed data corrections are permitted. Material cannot be accepted by NGC unless the Quality Record forms and any required certifications are complete and correctly executed.

The supplier and sub tier supplier through the supplier, if applicable, shall be responsible for meeting all requirements of drawing(s) and specifications. Actual acceptance inspection and test results must be maintained in supplier’s files, subject to examination, indication inspection, acceptance, and traceability of materials incorporated in the end item in accordance with governing drawings and specifications.
01Q001, AS9100 Quality Management System

The material supplied on this contract shall be controlled under a Quality Management System that conforms to all requirements of SAE AS9100 (Quality Management Systems - Requirements for Aviation, Space and Defense Organizations).

01Q001A, ISO 9001 Quality Assurance System

The supplier shall, in the performance of this order, provide and maintain a quality assurance program that complies with or is equivalent to the current revision of ISO 9001. NGC reserves the right to conduct a survey/audit of the supplier's facilities to determine the adequacy of the supplier's quality assurance system.

01Q001B, MIL-I-45208 Quality Assurance System

The supplier shall, in the performance of this order, provide and maintain a quality assurance program that complies with or is equivalent to MIL-I-45208 or the current revision of ISO 9001, less Design Control provisions. NGC reserves the right to conduct a survey/audit of the supplier's facilities to determine the adequacy of the supplier's quality assurance system.

01Q001C, Quality Assurance Program (Commercial)

The supplier shall, in the performance of this order, provide and maintain a quality assurance program that shall, as a minimum, provide the following:

- Verification that the supplied item was manufactured and inspected in accordance with purchase order requirements.
- A calibration and recall system to assure the accuracy of measuring equipment used for product acceptance.
- Detection of nonconforming material. Such material shall be identified, and segregated from stores of new and/or accepted material.

NGC reserves the right to conduct a survey/audit of the supplier's facilities to determine the adequacy of the supplier's quality assurance program.

01Q001D, MIL-Q-9858A Quality Management System

The supplier shall comply with Military Specification, MIL-Q-9858, Quality Program requirements, or the current revision of ISO 9001, Quality Management Systems – Requirements. During the performance of this order, your quality control or inspection system and manufacturing processes are subject to review, analysis, and verification by our Quality Assurance Representative.
01Q002, Source Surveillance

NGC reserves the right to place Quality Assurance Representatives (QARs) in the supplier's facilities, as deemed necessary, to ensure conformance with contractual requirements in any phase of design, processing, fabrication, testing, and inspection of the article(s) being produced. The supplier shall provide all reasonable facilities and assistance for the safety and convenience of such personnel in the performance of their duties. Such representatives shall be allowed full access to witness all operations involved in the fulfillment of this contract.

The supplier shall grant the same access to representatives of the buyer's customer, when accompanied by NGC personnel.

The supplier shall secure the same privileges from lower-tier subcontractors.

01Q002A, Source Inspection

Products or services furnished under this purchase order shall be inspected for compliance with quality and technical requirements of the purchase order at the supplier's facility prior to shipment. Notwithstanding the results of source inspection, final acceptance will occur at destination. The buyer's procurement representative shall be notified 5 working days in advance of the shipment. If an NGC Quality Assurance Representative (QAR) is in residence at the facility, notification through procurement is not required.

01Q002B, Mandatory Inspection Verification

Inspection of designated dimensional characteristics or processes is mandatory and must be witnessed and/or verified by the NGC Quality Assurance Representative (QAR) servicing the supplier's facility.

If an NGC QAR is resident at the facility, QAR will be given at least 24 hours' notice (one business day) prior to the inspection. If an NGC QAR is not resident, the supplier shall notify the buyer at least five business days prior to the inspection.

Mandatory inspection characteristics may be waived at the discretion of the QAR or quality assurance engineer. When inspection or verification is waived, the supplier will record "waived" on the inspection documentation adjacent to the waived characteristics and note the date of the waiver and the name of the NGC representative granting the waiver. A listing of mandatory inspection characteristics will be provided by the buyer under separate cover.

01Q002C, Certification Review at Source

Materials and Process Certifications shall be submitted to the NGC quality representative for review and approval 48 hours prior to shipment. This review and approval will not in any way reduce the supplier's responsibility for complete conformance to contractual requirements. Not to be shipped until certifications have been reviewed and approved.
01Q002D, Right to Access

NGC, NGC customer and/or regulatory agencies shall have the right to access the supplier’s facility and Quality records during the course of contract or purchase order.

01Q002E, Government Right of Access

During performance of this order, your Quality Control or Inspection system and manufacturing processes are subject to review, verification and analysis by authorized government representative. Government inspection or release of product prior to shipment is not required unless you are otherwise noted.

01Q003, Government Source Inspection Required

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, the NGC buyer shall be notified immediately.

01Q004, Subcontracted Special Processes

NGC approval of all special process suppliers used in the performance of this purchase order is required. The supplier shall submit the F11021 form with the intended special process suppliers to the buyer for consideration and approval at the earliest possible time. The supplier shall have required approval(s) in place for this purchase order at the time of hardware processing.

The Basis for the special process supplier approval is by a NGC special process audit or nationally recognized third-party audit and certification by organizations with expertise in the specific special process of interest (e.g., NADCAP, A2LA). Third party Quality Management System (QMS) certification (e.g., ISO 9001/AS9100) alone does not satisfy the requirement for a third party special process audit. Special processes include but are not limited to:

- Heat-treating (except suppliers who only perform stress relief or hydrogen embrittlement relief)
- Plating
- Passivation
- Chemical Processes (except in-process cleaning, application of paint to composite parts, and touch up of damaged coatings and paint)
- Nondestructive Test (NDT) (radiographic, magnetic particle, penetrant, ultrasonic inspection and eddy current)
- Welding
- Soldering
- Brazing
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- Mechanical/Electrical/Chemical Testing
- Non-conventional Machining (ex. using electrical, chemical, optical sources) & Surface Enhancements (ex. shot peening)
- Composites (ex. compression molding, core processing, liquid resin processing, metal bonding, prepreg/adhesive bonding/resin film infusion)

Notes:

2. The certification package shall include the approved F11021 form.

01Q004A, Flowdown Requirements

The supplier is responsible for compliance with all quality and technical requirements imposed by NGC even when the supplier subcontracts part of the work. The supplier’s responsibilities with respect to subcontracted work include:

- Transmission (flow down) of applicable quality and technical requirements to subtier suppliers
- Flow down of this provision to their subtier suppliers and verification that this provision has been properly implemented.
- Selection and control of subtier suppliers, unless otherwise specified in the purchase document.
- Assuring traceability of items processed through subtier suppliers

It is the supplier's responsibility to assure that the purchase order to the subtier supplier requires sufficient acceptance data to clearly fulfill the requirements imposed by the NGC purchase order to the supplier.

01Q005, Approval of Planning for Manufacturing, Testing and Inspection Procedures

Prior to fabrication of any deliverable item, the supplier shall provide for NGIS approval, the planned manufacturing, testing, and/or inspection procedures to be used in the fulfillment of this purchase order/subcontract. These procedures shall include, but not be limited to, manufacturing planning, dimensional inspection methods and techniques, drawings of special tooling used for dimensional acceptance, plans for performing tests on raw, semi-finished, and/or finished materials, dimensional inspection reports, and special process technique sheets.

NGC approval of plans referenced above shall not be required if the plans have been approved on a previous contract. A list of the previously approved documents that will be used, including the document title, name, revision, and approval reference, shall be submitted to the buyer and NGC Quality Assurance Representative (QAR) or delegate prior to use.
Any changes to the approved planning must be submitted to NGC for approval. Changes that affect the stated requirements of the part (Class I changes) shall be approved by NGC prior to implementation. All other changes (Class II changes) shall be submitted for concurrence in classification, and may be implemented immediately at the supplier's risk.

01Q005A, Approval of Planning for Non Destructive Testing (NDT) and Required Certification of Conformance

Prior to inspection, the supplier shall provide for NGC approval the written procedure for planned examinations for inspection process techniques (PT, MT, RT, UT, ET, etc.). The written procedure shall be approved by an NDT Level III at NGC. This includes special tooling that may be used for determining acceptance. These procedures must document all inspections that will be performed in conjunction with the fulfillment of this contract.

NGC approval of written procedures referenced above shall not be required if the plans have been approved on a previous contract. A list of the previously approved documents that will be used, including the document title, name, revision, and approval reference, shall be submitted to the buyer and NGC Quality Assurance Representative (QAR) or delegate prior to use.

Changes to any previously approved inspection planning must be submitted to NGC for approval.

A Certification of Conformance to the applicable nondestructive inspection specification is required with shipment. Material received without certification is subject to rejection and return to the supplier at the supplier's expense.

The certification shall contain, as a minimum, the following:

- Purchase order number, part number, revision, and serial or lot number(s) of the part(s) covered by the certification
- Applicable specification including, as applicable: revision, notice, amendment, type, grade, class, method, or other qualifier, as specified on the purchase order, drawing or specification
- A statement that certified personnel were used to perform the testing
- A statement that special process techniques have been approved by a Level III at NGC
- Signature of the Quality Assurance Manager or other responsible member of the supplier’s company (a typed name with title on a computer generated document is an acceptable substitute for signature)
- The title of the person signing

When radiography is performed, the resulting radiographs will be supplied with the parts. Radiographs must be identified with NGC part number and serial number.
**01Q006, Supplier Shelf Life Control**

Inspection acceptance records and environmental control limitations of materials employed in the manufacture of the end item designated must indicate as a minimum: material, specification(s), lot number, purchase order number, inspection acceptance markings, shelf-life limitations, and storage conditions as recommended by manufacturer or required by specification. Supplier shall systematically control materials to ensure acceptability for use and to prevent nonconforming materials from being incorporated into the end item.

**01Q007, First Article Inspection (FAI)**

A first article inspection, meeting the requirements of AS9102, is required. The supplier shall notify NGC, through the procurement division, ten (10) days prior to first article inspection. At this time, NGC may elect to send a representative to visit the supplier's facilities to evaluate the quality program and perform or witness first article inspection.

If NGC decides to waive this right, the supplier shall, upon request, forward the first article(s) along with inspection results (by variables data) and any additional substantiating documentation to NGC. Shipment of production articles will not be received by NGC pending the acceptance of the first article. Any production effort prior to NGC authorization will be at supplier's risk.

The FAI and any other required documentation should be included with the initial shipment. After the initial shipment the FAI shall be kept on file and be available for review by NGC personnel. Subsequent shipments should include a copy of the FAI or the C of C should include a reference to the applicable FAI (part number, revision, date and original P.O.)

**A new first article inspection shall be required when the below conditions are met:**

- A new part is fabricated or a change in the design characteristics affecting fit, form, or function.
- A change in manufacturing source(s), process(es), inspection method(s), location of manufacture, tooling, or materials that can potentially affect fit, form, or function.
- A change in numerical control program or translation to another media that can potentially affect fit, form, or function.
- A natural or man-made event, which may adversely affect the manufacturing process.
- An implementation of corrective action required to complete a previous FAI.
- A lapse in production for **two years** or more. This lapse is from the completion of last production operation to the actual restart of production.
01Q007A, First Piece Inspection

First piece(s) inspection is required by the supplier. The supplier shall notify the NGC buyer ten (10) days prior to first piece(s) inspection. At this time NGIS may elect to send a representative to visit the supplier's facilities to evaluate the quality program and perform or witness the inspection.

If NGC decides to waive this right, the supplier shall, upon request, forward the piece(s) along with inspection results (by variables data) and any additional substantiating documentation to NGC. NGC will perform an inspection and notify the supplier of the acceptance, conditional acceptance, or rejection of the article within ten (10) working days after receipt.

In the event the inspection is discrepant additional inspection samples will be required prior to release for production. Shipment of production articles will not be received by NGC pending the acceptance of the first piece(s) inspection, and, any production effort prior to NGC authorization will be at supplier’s risk. The first piece(s) inspection can include inspection of components that make up an assembly.

New, damaged, reworked or revised special tools, gages or equipment, when dimensional control of manufactured articles are affected, shall be cause for additional acceptance, proofing and first piece(s) inspection.

01Q007B, Inspection

The supplier is to perform a dimensional inspection and record the results. Actual dimensions are to be recorded and reported for each piece inspected. A range of dimensions representing all units delivered is not acceptable. The use of check marks or “OK” is not acceptable except in the case of tool-controlled dimensions.

If tooling is used to control or accept dimensions it must be validated prior to use and a First Article Inspection report prepared for the tool-controlled dimensions. The resulting FAI report shall be included with the certification package. Unless otherwise specified on the drawing or purchase order, dimensional inspection will be performed as follows:

Nondestructive inspection, and inspection of critical and major characteristics as defined on the drawing, shall be performed on each piece. Minor characteristics shall be inspected 100% on selected parts being sampled. Parts manufactured per purchase order line item with minor characteristics on the drawing shall be sample inspected at a minimum in accordance with ANSI Z1.4, Single sampling, General Inspection Level II, Normal Inspection. The AQL shall be chosen such that AC=0, RE=1. See the table below for an inspection plan meeting these requirements.

Note: When one piece is being procured, 100% inspection applies to all characteristics and shall be submitted with shipment.
NGC
QUALITY ASSURANCE PROVISIONS OF PURCHASE ORDER

<table>
<thead>
<tr>
<th>Lot Size</th>
<th>Critical</th>
<th>Major Characteristics</th>
<th>Minor</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>100%</td>
<td>100%</td>
<td>1</td>
</tr>
<tr>
<td>2 to 8</td>
<td>100%</td>
<td>100%</td>
<td>2</td>
</tr>
<tr>
<td>9 to 15</td>
<td>100%</td>
<td>100%</td>
<td>3</td>
</tr>
<tr>
<td>16 to 25</td>
<td>100%</td>
<td>100%</td>
<td>5</td>
</tr>
<tr>
<td>26 to 50</td>
<td>100%</td>
<td>100%</td>
<td>8</td>
</tr>
<tr>
<td>51 to 90</td>
<td>100%</td>
<td>100%</td>
<td>13</td>
</tr>
<tr>
<td>91 to 150</td>
<td>100%</td>
<td>100%</td>
<td>20</td>
</tr>
<tr>
<td>151 to 280</td>
<td>100%</td>
<td>100%</td>
<td>32</td>
</tr>
<tr>
<td>281 to 500</td>
<td>100%</td>
<td>100%</td>
<td>50</td>
</tr>
<tr>
<td>501 to 1200</td>
<td>100%</td>
<td>100%</td>
<td>80</td>
</tr>
<tr>
<td>1201 to 3200</td>
<td>100%</td>
<td>100%</td>
<td>125</td>
</tr>
</tbody>
</table>

- An attribute that is sample inspected and found discrepant shall be 100% screened.
- The supplier’s inspection report must assure traceability to the purchase order items.

**01Q007C, Submit Sampling Plan for Approval**
Supplier shall submit a written sampling plan. Submit the sampling plan to the buyer specified on the purchase order. This plan must be approved by NGC prior to the first shipment. NGC approved sampling of material by lot shall be in accordance with Military Standard Sampling Plans (MIL-STD-105, MIL-STD-414, MIL-STD-1916, and/or ANSI/ASQC Z1.4) only with prior NGC approval of the inspection level. The plan must include the manner in which lot formations are determined. The sampling plan shall preclude the acceptance of lots whose samples have known nonconformities. Should the supplier wish to implement a different sampling plan, they shall obtain NGC written approval prior to use.

**01Q007D, First Article Inspection (FAI)**
First Article Inspection is required on this purchase order. One-hundred-percent inspection of all dimensions, including tool-controlled dimensions, drawing notes, material callouts, and specification requirements, will be performed on the first part produced.

Notify the buyer 5 working days in advance of anticipated FAI. NGC will either send a quality assurance representative to participate, or waive participation.

In the event FAI is waived, the supplier shall forward results to the buyer for concurrence. Shipment may not be made until either 1) concurrence is received, or 2) five working days have passed since receipt of FAI data at buyer’s facility.
If any of the below listed changes occur after FAI, notify the buyer so that NGC may determine if another FAI is required.

- A significant design or process change has been made that affects the original first article. An incremental first article will be performed, which will be applicable only to those characteristics affected by the change.
- A change in facilities or materials utilized to produce the article has taken place.
- New, reworked or revised special tools, gages or equipment, are introduced, when dimensional control of manufactured articles is affected.
- The supplier has not produced the item for a period of 12 months or longer.

**01Q007E, 100% Inspection**

On each piece the supplier is to perform 100% inspection of all dimensions, tool-controlled dimensions, drawing notes, material callouts, nondestructive inspections, specification requirements and record the results. Actual dimensions are to be recorded and reported for each piece inspected. A range of dimensions representing all units delivered is not acceptable. The use of check marks or “OK” is not acceptable except in the case of tool-controlled dimensions.

If tooling is used to control or accept dimensions it must be validated prior to use and a First Article Inspection report prepared for the tool-controlled dimensions. The resulting FAI report shall be included with the certification package.

**01Q008, Contamination Control (Titanium)**

Control measures shall be taken to preclude any type of titanium corrosion. Specific actions to be taken include but are not limited to:

- Avoiding contamination by sulfur- or chloride-containing solvents, cadmium-plated components, and mercury.
- Immediate degreasing when fabrication is complete, or when additional work will not be performed for eight (8) or more hours.
01Q008A, Foreign Object Damage (FOD) Prevention

The subcontractor shall establish procedures to implement a Foreign Object Damage (FOD) Prevention program using NAS412 as a guideline. The program shall be proportional to the sensitivity of the product(s) design to FOD, as well as, to the FOD generating potential of the manufacturing methods.

Existing subcontractor practices and procedures that meet specific requirements shall be documented and submitted to the buyer for review and concurrence. The procedures shall include the following elements as a minimum:

- Guidance on practices that, when followed, will eliminate damage caused by foreign objects during manufacturing, rework, and assembly and test, including but not limited to:
  - Inspection of materials and components on receipt at the work station for cleanliness and damage, and ensuring that they are clearly and properly identified;
  - Continual cleaning of finished and in-process materials and the surrounding work area as part of the normal in-process work effort;
  - Steps in shop documentation to check for the presence of FOD.
  - Wearing attire that is appropriate for the specific work area – by both operators and transients – including removal of all personal items, including jewelry (e.g., rings, watches, necklaces, earrings, badges), and restraining of all eyewear and ear protection;
  - Elimination or limiting FOD-causing processes;
  - A program to prevent tools, accompanying documents, and other items necessary to the manufacture of the item from becoming foreign objects; and
  - Ensuring that items not necessary to the manufacture of the item are not introduced into the work area.

- Establishment and maintenance of a training program for the FOD program.
- Identification of those categories of employees who require FOD training.

01Q009, Serialization

The supplier is responsible for assigning serial numbers as specified on the drawing. Serial numbers shall be unique across all purchase orders. Serialization requirements on the drawing take precedence over the requirements of this Quality Assurance Provision. In the event conflict between the purchase order and the drawing cannot be resolved, contact the buyer.

Serial numbers shall be in the following format: Supplier’s Cage code, followed by a dash, followed by the supplier-assigned number. Example: 3BJA0-00001. The total length of the serial number shall not exceed 20 characters. In the event a supplier does not have a cage code they can use their vendor code. Example: V506771-00001.
01Q010, Certification of Conformance

A Certification of Conformance is required with shipment. The certification shall include, for each item covered by the certification, the following minimum information:

- Purchase order number
- Part number and revision of the item supplied, as specified on the purchase order
- Serial or lot numbers covered by the certification (as applicable). If Lot numbers are used the total quantity represented within the shipment must be accounted for and identified on the certification.
- A statement that the certified item meets all drawing, specification, and/or purchase order requirements
- Signature of the Quality Assurance Manager or other responsible member of the supplier’s company (a typed name with title on a computer generated document is an acceptable substitute for signature).
- The title of the person signing.
- The suppliers name and address
- Manufacturers name and address if different from seller

Material received without certification is subject to rejection and return to the supplier at the supplier's expense.

Note: Test reports or other supporting documents generated from a computer system with a statement of validity without additional signatures will be accepted providing the certificate portion of the data packet is signed or stamped as outlined above.

01Q010A, Certification of Analysis

A Certification of Analysis is required with shipment. The certification shall include, for each item covered by the certification, the following minimum information:

- Purchase order number
- Part number and revision of the item supplied, as specified on the purchase order
- Serial or lot numbers covered by the certification (as applicable). If Lot numbers are used the total quantity represented within the shipment must be accounted for and identified on the certification.
- A statement that the certified item meets all drawing, specification, and/or purchase order requirements
- Signature of the Quality Assurance Manager or other responsible member of the supplier’s company (a typed name with title on a computer generated document is an acceptable substitute for signature).
- The title of the person signing.
- The suppliers name and address
• Manufacturers name and address if different from seller
• Results of required analysis per purchase order requirements

Material received without certification is subject to rejection and return to the supplier at the supplier's expense.

Note: Test reports or other supporting documents generated from a computer system with a statement of validity without additional signatures will be accepted providing the certificate portion of the data packet is signed or stamped as outlined above.

01Q010B, Distributor Certification of Conformance
A Certification of Conformance is required with shipment. The certification shall include, for each item covered by the certification, the following minimum information:

• Purchase order number
• Part number and revision of the item supplied, as specified on the purchase order
• Serial or lot numbers covered by the certification (as applicable). If Lot numbers are used the total quantity represented within the shipment must be accounted for and identified on the certification.
• A statement that the certified item meets all drawing, specification, and/or purchase order requirements
• Signature of the Quality Assurance Manager or other responsible member of the supplier's company (a typed name with title on a computer generated document is an acceptable substitute for signature).
• The title of the person signing.
• The suppliers name and address
• Manufacturers name if different from seller

Material received without certification is subject to rejection and return to the supplier at the supplier's expense.

Note: Test reports or other supporting documents generated from a computer system with a statement of validity without additional signatures will be accepted providing the certificate portion of the data packet is signed or stamped as outlined above.

01Q010C, COTS Certification of Conformance
A Certification of Conformance is required with shipment. The certification shall include, for each item covered by the certification, the following minimum information:

• Purchase order number
• Part number and revision of the item supplied, as specified on the purchase order
Serial or lot numbers covered by the certification (as applicable). If Lot numbers are used the total quantity represented within the shipment must be accounted for and identified on the certification.

- A statement that the certified item meets all manufacturer and purchase order requirements
- Signature of the Quality Assurance Manager or other responsible member of the supplier’s company (a typed name with title on a computer generated document is an acceptable substitute for signature).
- The title of the person signing.
- The supplier's name and address

Material received without certification is subject to rejection and return to the supplier at the supplier’s expense.

**Note:** Test reports or other supporting documents generated from a computer system with a statement of validity without additional signatures will be accepted providing the certificate portion of the data packet is signed or stamped as outlined above.

### 01Q010D, Manufacturer or Authorized Distributor Certification Required

A Certification of Conformance is required with shipment. The certification must include, for each part covered by the certification, the following minimum information:

- a. Purchase order number
- b. Part number (and revision, if applicable) of the item supplied, as specified on the purchase order
- c. Batch identifications for the item(s) such as date codes, lot codes, serial numbers, or other identification. The total quantity represented within the shipment must be accounted for and identified on the certification.
- d. A statement that the certified part meets all manufacturer and purchase order requirements
- e. Signature or other identification of Seller’s authorized personnel approving the certificate.

**NOTE:** Distributors shall, in addition to the above include:

- f. Manufacturer’s name (and address if available)
- g. Manufacturer’s part number (and revision, if applicable), if different from part number on the purchase order
- h. A statement or other documentation that the distributor is recognized by the manufacturer as an authorized distributor.

Material received without certification is subject to rejection and return to the supplier at the supplier’s expense.
01Q010E, Process Documentation Revision Statement
A listing of applicable Process Documents and their respective revision levels shall be included with the Certificate of Conformance in addition to the standard requirements specified in Quality Assurance Provision 01Q010. The listing shall include reference to the NGC document approving each listed Process Document. The term Process Document includes Work Instructions, Travelers, Planning Documents, Routings, and Test Procedures.

When the Supplier utilizes NGC approved subcontracted special process suppliers in the performance of this purchase order, a listing of those Process Documents with revision level along with the NGC approval reference shall be included with that Certificate of Conformance.

01Q010F, FAR Clause 52.246-15 Certificate of Conformance
A copy of the signed certificate shall also be attached to or entered on copies of the inspection or receiving report accompanying the shipment.

The certificate shall read as follows:

I certify that on ______ [insert date], the ____ [insert Contractor’s name] furnished the supplies or services called for by Contract No._____ via ____ [Carrier] on ______ [identify the bill of lading or shipping document] in accordance with all applicable requirements. I further certify that the supplies or services are of the quality specified and conform in all respects with the contract requirements, including specifications, drawings, preservation, packaging, packing, marking requirements, and physical item identification (part number), and are in the quantity shown on this or on the attached acceptance document.

Date of Execution: _____________________________

Signature: _____________________________________

Title:

01Q011, Certification of Conformance with Subtier Configuration
A Certification of Conformance is required with shipment. The certification must include, for each item covered by the certification, the following minimum information:

• Purchase order number
• Part number and revision of the item supplied, as specified on the purchase order
• Drawing or specification number, with revision, for subtier documents
•
• Serial and lot numbers covered by the certification (as applicable). If Lot numbers are used the total quantity represented within the shipment must be accounted for and identified on the certification.

• A statement that the certified part meets all drawing, specification, and purchase order requirements

• Signature of the Quality Assurance Manager or other responsible member of the supplier’s company (a typed name with title on a computer generated document is an acceptable substitute for signature).

• The title of the person signing.

Material received without certification is subject to rejection and return to the supplier at the supplier’s expense.

01Q011A, Certification of Analysis with Subtier Configuration

A Certification of Conformance is required with shipment. The certification must include, for each item covered by the certification, the following minimum information:

• Purchase order number

• Part number and revision of the item supplied, as specified on the purchase order

• Drawing or specification number, with revision, for subtier documents

• Serial and lot numbers covered by the certification (as applicable). If Lot numbers are used the total quantity represented within the shipment must be accounted for and identified on the certification.

• A statement that the certified part meets all drawing, specification, and purchase order requirements.

• Results of required analysis per purchase order requirements

• Signature of the Quality Assurance Manager or other responsible member of the supplier’s company (a typed name with title on a computer generated document is an acceptable substitute for signature).

• The title of the person signing.

Material received without certification is subject to rejection and return to the supplier at the supplier’s expense.

01Q012, Product Compliance and Process Changes

(Use 01Q000)
01Q013, **Statistical Process Control (SPC)**

The supplier shall implement a system for SPC using the techniques defined in ANSI Z1.1, ANSI Z1.2 and ANSI Z1.3 (ASQC Standard B1, B2 & B3). The supplier shall use SPC techniques in conjunction with quality/productivity improvement efforts to continually reduce the variability of product quality characteristics with respect to the specified design nominal’s and tolerance. A plan for implementation of SPC will be required and must be submitted to NGC. Supplier shall notify NGC purchasing department prior to shipping any lots exceeding plus or minus two sigma limits. Periodic on-site evaluation of the SPC plan/procedures may be conducted at the discretion of NGC.

The supplier shall provide with each shipment a certification validating the quality of the articles via SPC techniques. The supplier shall identify on the certification the characteristics that were controlled by SPC techniques. Additionally, the certification shall include the supplier’s name, part number, purchase order number manufacturing lot/date code; quantity shipped, and shall be signed by an authorized supplier’s representative. Either by an inspection stamp or signature and title. Or as defined in NGC specification.

01Q014, **Process Control**

The supplier shall utilize statistical methods such as statistical process control or other recognized graphical and statistical techniques to establish, control, and verify process capability and product characteristics on key processes directly or indirectly affecting product to be delivered to the buyer. Supplier shall determine the key processes, supplier shall establish and maintain documented procedures to implement and control the application for statistical methods. Supplier shall provide documentation of the functioning and effective use of the process control upon request.

01Q015, **Special Process Certification**

A Certification of Conformance to the special processes specified on the purchase order or drawing or specification is required with shipment. Material received without certification(s) is subject to rejection and return to the supplier at the supplier’s expense.

The certification shall contain, as a minimum, the following:

- Purchase order number, part number, revision, and serial or lot number(s) of the part(s) covered by the certification;
- Applicable specification including, as applicable: revision, notice, amendment, type, grade, class, method, or other qualifier, as specified on the purchase order, drawing or specification;
- Signature of the Quality Assurance Manager or other responsible member of the supplier’s company (a typed name with title on a computer generated document is an acceptable substitute for signature).
Test data, radiographs, and/or residual test specimens prepared in compliance with the specification or purchase order will be supplied with the delivered parts.

01Q016, Hydrostatic or Proof Pressure Test

A Certification of Conformance to the applicable hydrostatic or proof pressure test requirement is required with shipment. Material received without certification is subject to rejection and return to the supplier at the supplier's expense.

The certification shall include, as a minimum, the following information, as applicable:

- Purchase order number, part number, revision, and serial or lot number(s) of the part(s) covered by the certification
- Test fluid
- Actual pressure and time at pressure
- Volumetric expansion vs. pressure
- Pressure at rupture, if applicable
- Number of tests performed on each part
- Dimensional inspection before and after test.

Note: Dimensions to be inspected to demonstrate that there has been no permanent deformation due to hydro test will be attached, if applicable.

- Signature of the Quality Assurance Manager or other responsible member of the supplier's company (a typed name with title on a computer generated document is an acceptable substitute for signature).

- The title of the person signing.

If the required information is incorporated into an NGC-approved test plan, the certification may reference the test plan in lieu of reporting the information above.

01Q016A, Heat Treat Certification

A Certification of Conformance to the applicable heat treat specification is required with shipment. Material received without certification is subject to rejection and return to the supplier at the supplier's expense.

The certification shall contain, as a minimum, the following:

- Purchase order number, part number, revision, and serial or lot number(s) of the part(s) covered by the certification;
- Applicable specification including, as applicable: revision, notice, amendment, type, grade, class, method, or other qualifier, as specified on the purchase order; drawing or
QUALITY ASSURANCE PROVISIONS OF PURCHASE ORDER

- Specification;
- Heat treat lot number;
- Results of physical property testing demonstrating compliance with specification requirements.
- Signature of the Quality Assurance Manager or other responsible member of the supplier’s company (a typed name with title on a computer generated document is an acceptable substitute for signature).
- The title of the person signing.

Test specimens will be supplied with the delivered parts as required by the specification or purchase order.

01Q016B, Nondestructive Inspection
SEE QAP 01Q005A

01Q016C, Welding Certifications

The supplier will certify that all welding was performed in conformance with the applicable specification pertaining to certifications of processes and operators. Records of welders’ certifications will be maintained by the supplier and will be subject to buyer review upon request. The buyer will be notified prior to any necessary weld repair, except where prior buyer approval has been granted or waived.

Certification of Conformance shall include:

- Signature of the Quality Assurance Manager or other responsible member of the supplier’s company (a typed name with title on a computer generated documents is an acceptable substitute for signature).
- Applicable specification including, as applicable: revision, notice, amendment, type, grade, class, method, or other qualifier, as specified on the purchase order; drawing or specification.
- Purchase order number, part number, revision, and serial number(s) of the part(s) covered by the certification.

Welding procedures (schedules) will be developed and evaluated to assure compliance with drawing and specification requirements. The resulting weld schedules shall not be changed without NGC concurrence.
01Q016D, Surface Preparation/Plating

A Certification of Conformance to the applicable surface preparation or plating specification is required with shipment. Material received without certification is subject to rejection and return to the supplier at the supplier's expense.

The certification will contain, as a minimum, the following:

- Purchase order number, part number, revision, serial or lot number(s) of the part(s) covered by the certification;
- The name of the process (for example: passivation, anodizing, oxide coating, chemical conversion coating, painting, cleaning);
- Applicable specification including, as applicable: revision, notice, amendment, type, grade, class, method, or other qualifier, as specified on the purchase order, drawing or specification;
- Signature of the Quality Assurance Manager or other responsible member of the supplier's company (a typed name with title on a computer generated document is an acceptable substitute for signature);
- The title of the person signing.

Requirements, if any, for submittal of supporting data, are specified on the face of the purchase order.

01Q017, Drop Shipments Required

The material (product) purchased on this order is to be shipped to other than the buyer's facilities. Prior to shipping the product(s) on this order the supplier shall complete Form F98030 (Authorization to Ship) and send it to the Buyer's designated receiving department, as defined on the form, with all the copies of the packing list, quality record sheets, certifications, source inspection acceptance, and other product assurance data required by this order. The supplier must assure traceability, by serialization or lot number(s), of materials (including CFM) through their process and to the drop shipment destination.

Supplier is not authorized to ship material until the NGC-approved Authorization to Ship form is received from the buyer. Supplier shall retain a copy of the approved form and include a copy of the approved form with the shipping documentation to the "ship to" destination of this purchase order. The supplier shall notify the buyer when shipment has been made. NGC advance review and approval will not in any way reduce the supplier's responsibility for complete conformance to contractual requirements. Form F98030 (Authorization to Ship) is available from the buyer and from the NGC website.
**NGC QUALITY ASSURANCE PROVISIONS OF PURCHASE ORDER**

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**01Q017A, Drop Shipments without NGC Source Inspection**

The material purchased is to be shipped to other than the buyer's facilities. Copies of quality record sheets, certifications, and other product assurance data required by this order shall be mailed to the NGC buyer for **review and approval in writing five days** prior to the shipment being made.

The supplier must assure traceability, by serialization or lot number (s) of materials (including CFM) through their process and to the drop shipment destination.

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**01Q017B, Certification Review Prior To Shipment**

Prior to shipping the product(s) on this order the supplier shall complete Form F98030 (Authorization to Ship) and send it to the Buyer's designated receiving department, as defined on the form, with all the copies of the packing list, quality record sheets, certifications, and other product assurance data required by this order. The supplier must assure traceability, by serialization or lot number(s), of materials (including CFM) through their process.

Supplier is not authorized to ship material until the NGC-approved Authorization to Ship form is received from the buyer. Supplier shall retain a copy of the approved form and include a copy of the approved form with the shipment. The supplier shall notify the buyer when shipment has been made. NGC advance review and approval will not in any way reduce the supplier's responsibility for complete conformance to contractual requirements.

Form F98030 (Authorization to Ship) is available from the buyer and from the NGC website. This pre-submittal requirement is waived if NGC Source Inspection is performed.

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**01Q018, Counterfeit Electronic Parts Prevention**

Quality Assurance Provision establishes specific NGC quality requirements to reduce the risk of counterfeit electronic parts entering NGC’s supply chain. These requirements are applicable to procurement of electronic components by NGC or NGC’s subcontractors from non-franchised distributors, and are in addition to those set forth in any other contracted document. The provisions indicated herein are an integral part of each purchase order.

Compliance with the requirements of these clauses does not reduce supplier responsibility for furnishing materials and services which fully comply with all applicable drawings and specifications requirements, nor does it guarantee acceptance of materials or services by NGC.

In the event that materials or services are found to be defective and cannot be demonstrated by the supplier to be in conformance with purchase order requirements, NGC shall have the right to reject them. Electronic parts are defined as: Electrical or electronic devices that are not subject to disassembly without destruction or impairment of design use. They are sometimes called electronic components or piece parts. An electronic assembly is defined as: An assembly containing one or more electronic parts. A counterfeit electronic part is defined as: A part
falsely represented in some manner, e.g., manufacturer, part number, date code, lot code, reliability level, etc. The Seller shall ensure that all electronic components procured to fulfill NGC purchase order requirements include a certificate of conformance from the Original Equipment Manufacturer or a Franchised Distributor. In some instances parts must be procured from Brokers or Suppliers other than the Original Equipment Manufacturer or their Franchised Distributor; in these cases the original product certification may not be available. This Quality Assurance Provision (QAP) covers requirements ONLY for products purchased from Brokers or Distributors other than the Original Manufacturer. The procedures defined in this QAP are in no way to be interpreted as relieving the Supplier/Seller from the responsibility of meeting all contractual/purchase order requirements.

Seller and Supplier shall implement appropriate controls to assure product origin and conformance to NGC requirements and related engineering drawings, including:

- Procurement of parts only from Manufacturer or authorized Distributor(s), when available within NGC lead time requirements.
- Internal procedures to provide suspect parts awareness training relative to identification and reporting of counterfeit parts.
- Validation of subcontractor’s procurement methodology and sources of supply where procurement is outsourced to another entity.

Electronic components are to be purchased only from the Original Equipment Manufacturer (OEM) or a Franchised Distributor of the OEM.

- The OEM or Franchised Distributor shall provide with the shipment a Certificate of Conformance, certifying that the component provided is the part number being procured on the NGC Purchase Order. A certificate which certifies the vendor part number, with the NGC ordered part number identified as .Reference or Customer P/N, does not indicate certification to the NGC ordered part number, if the NGC drawing includes additional requirements.

- A certificate from a Franchised Distributor must also establish traceability to the Original Manufacturer. The preferable method is for the Franchised Distributor to provide a copy of

- The Manufacturer’s certificate for the lot number being supplied, along with their Franchised Distributor certification. Acceptable, but not preferable, is a Franchised Distributor certificate identifying the Original Manufacturer.

Electronic components may NOT be purchased from Brokers (non-franchised distributors), except in the event that the components are not available from the OEM or Franchised Distributor within NGC lead time.

- Broker must meet the same certificate of conformance requirements as those required from an OEM or Franchised Distributor (see above). If the certification requirement cannot be met, the inspection and test requirements defined below must be met.

- Broker must also provide their own certification that warrants parts to be .original. (that is, not refurbished or reworked). If Broker cannot provide this certification, the parts may not be procured.

**Inspection and Test Requirements**
In the event that any source of supply (OEM, Franchised Distributor, or Broker) cannot provide a Certificate of Conformance certifying the component provided is the part number being procured on the NGC Purchase Order and establishing traceability to the Original Equipment Manufacturer, the components may only be procured if the following inspection and test requirements are met. All inspection and testing performed to satisfy the conditions of this Quality Assurance Provision (QAP) shall be performed by a test laboratory approved by NGC. The term Lot Acceptance Testing, as used in this QAP, shall be defined as: Lot testing at specified temperature range, as defined in the OEM device data sheet. The data sheet may identify these requirements as Group ‘A’ testing, critical parameters, or key performance parameters.

In the case of Integrated Circuits (IC):

- The component Supplier must verify that the physical attributes of the package meet the data sheet specifications and that the case / package marking is consistent with the marking requirements given in the OEM device data sheet and, if applicable, the NGC drawing.
- The component Supplier must de-lid a minimum of one (1) sample IC from each data or lot code.
- Confirm and document that the device die is a product of the OEM indicated on the case/ package marking.
- Contact the OEM to obtain verification that die and case / package markings, as well as date / lot codes are valid. If this verification is provided, the lot is acceptable with little or no further testing.
- If OEM date and lot codes are NOT valid or OEM verifies they did NOT manufacture the part, the lot must be rejected.
- If OEM verification cannot be obtained, Lot Acceptance Testing, as defined below, must be performed.

Perform Lot Acceptance Testing, if required:

- If OEM verification cannot be obtained, perform Lot Acceptance Testing, as specified on the device data sheet and, if applicable, the NGC drawing.
- Sample size: As specified on the OEM’s device data sheet. If no sample size is specified on the OEM data sheet, sample size shall be 116/0. That is, a sample size of 116 shall be randomly selected from each lot/date code and submitted to the specified testing.
- If the lot size is less than the required sample size (116), each and every device in the lot shall be tested and all failed devices removed from the lot.
- If any device in the sample fails any parameter in the lot acceptance testing, each and every additional device in the lot shall be tested on the same test set-up for all parameters in the test, and all failed devices shall be removed from the lot. If this testing results in a percent defective greater than 5 percent, the results shall be submitted to the NGC.
buying for lot disposition prior to the use of any devices in the lot.

In the case of components that are not integrated Circuits:

The component Supplier must verify that the physical attributes of the package meet the data sheet specifications and that the case / package marking is consistent with the marking requirements given in the OEM device data sheet and, if applicable, the NGC drawing.

- Contact the OEM to obtain verification that case / package markings and date / lot codes are valid. If this verification is provided, the lot is acceptable with no further testing. If OEM date and lot codes are NOT valid or OEM verified they did NOT manufacture the part, the lot must be rejected.

- Sample size: As specified on the OEM’s device data sheet. If no sample size is specified on the OEM data sheet, sample size shall be 116/0. That is, a sample size of 116 shall be randomly selected from each lot / date code and submitted to the specified testing.

- If the lot size is less than the required sample size (116), each and every device in the lot shall be tested and all failed devices removed from the lot.

- If any device in the sample fails any parameter in the lot acceptance testing, each and every additional device in the lot shall be tested on the same test set-up for all parameters in the test, and all failed devices shall be removed from the lot. If this testing results in a percent defective greater than 5 percent, the results shall be submitted to the NGC buyer for lot disposition prior to the use of any devices in the lot.

Documentation Requirements:

Documentation requirements shall be in accordance with NGC and/or as directed by theprocuring site’s purchase order.

01Q019, Procurement from a Recognized Source

All Electrical, Electronic, and Electromechanical (EEE) components included in assemblies and subassemblies being delivered per this order must have been procured by the seller directly from either the manufacturer of the item(s) or an authorized distributor of the manufacturer of the item(s). The certifications of the above mentioned (EEE) components shall be retained per the records retention requirements directed elsewhere within this order.

01Q020, Manufacturer Listed on Government Qualified Product List (QPL)

Certifications shall include the name and address of the manufacturer of the material, the manufacturer’s designation of the material, and a statement that the material appears on the current QPL (state revision) for the specification.

01Q021, Raw Material Certificate of Analysis Required

Material provided under this purchase order shall be supplied and certified to the exact specification, revision, amendment, type, grade, etc. specified in the purchase order.
A Certificate of Analysis shall be included with the shipment and shall include:

- Purchase order number
- Identification of the material supplied, as specified on the purchase order
- Material traceability number(s) covered by the certification (as applicable)
- A statement that the material shipped meets purchase order requirements.
- Data supporting the conformance statement.
- Signature of the Quality Assurance Manager or other responsible member of the supplier's company (a typed name with title on a computer generated document is an acceptable substitute for signature).
- The title of the person signing.
- The supplier's name and address
- Manufacturers name and address if different from seller

Material received without certification is subject to rejection and return to the supplier at the supplier's expense.

Note: Test reports or other supporting documents generated from a computer system with a statement of validity without additional signatures will be accepted providing the certificate portion of the data packet is signed or stamped as outlined above.

01Q021A, Raw Material Certificate of Conformance Required

Material provided under this purchase order shall be supplied and certified to the exact specification, revision, amendment, type, grade, etc. specified in the purchase order.

Marking shall be in accordance with purchase order and specification requirements and shall include traceability to the manufacturer's records identifier (heat, melt, or other identifier).

A Certificate of Conformance shall be included with the shipment and shall include:

- Purchase order number
- Identification of the material supplied, as specified on the purchase order
- Material traceability number(s) covered by the certification (as applicable)
- A statement that the material shipped meets purchase order requirements.
- Signature of the Quality Assurance Manager or other responsible member of the supplier's company (a typed name with title on a computer generated document is an acceptable substitute for signature).
- The title of the person signing.
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- The suppliers name and address
- Manufacturers name and address if different from seller

Test data supporting the conformance statement shall be kept on file and be available for review by NGC personnel.

Material received without certification is subject to rejection and return to the supplier at the supplier's expense.

**Note:** Test reports or other supporting documents generated from a computer system with a statement of validity without additional signatures will be accepted providing the certificate portion of the data packet is signed or stamped as outlined above.

**01Q021B, Specification Chemical Raw Materials Certificate of Analysis Required**

Material provided under this purchase order shall be supplied and certified to the exact specification, revision, amendment, type, grade, etc. specified in the purchase order.

Material provided under this purchase order shall be obtained from a single identifiable manufacturing lot.

Marking shall include manufacturer’s lot number

A Certificate of Analysis shall be included with the shipment and shall include

- Purchase order number
- Identification of the material supplied, as specified on the purchase order
- Lot number(s) covered by the certification (as applicable)

- A statement that the material shipped meets purchase order requirements.
- Data supporting the conformance statement.
- Date of manufacture
- Signature of the Quality Assurance Manager or other responsible member of the supplier’s company (a typed name with title on a computer generated document is an acceptable substitute for signature).

- The title of the person signing.
- The suppliers name and address
- Manufacturers name and address if different from seller

Material received without certification is subject to rejection and return to the supplier at the supplier's expense.

**Note:** Test reports or other supporting documents generated from a computer system with a statement of validity without additional signatures will be accepted providing the certificate portion of the data packet is signed or stamped as outlined above.
01Q021C, Specification Chemical Raw Materials Certificate of Conformance Required

Material provided under this purchase order shall be supplied and certified to the exact specification, revision, amendment, type, grade, etc. specified in the purchase order.

Material provided under this purchase order shall be obtained from a single identifiable manufacturing lot.

Marking shall include manufacturer’s lot number.

A Certificate of Conformance shall be included with the shipment and shall include

- Purchase order number
- Identification of the material supplied, as specified on the purchase order
- Serial or lot numbers covered by the certification (as applicable)
- A statement that the material shipped meets purchase order requirements.
- Date of manufacture
- Signature of the Quality Assurance Manager or other responsible member of the supplier’s company (a typed name with title on a computer generated document is an acceptable substitute for signature).
- The title of the person signing.
- The suppliers name and address
- Manufacturers name and address if different from seller

Test data supporting the conformance statement shall be kept on file and be available for review by NGC personnel.

Material received without certification is subject to rejection and return to the supplier at the supplier's expense.

Note: Test reports or other supporting documents generated from a computer system with a statement of validity without additional signatures will be accepted providing the certificate portion of the data packet is signed or stamped as outlined above.

01Q021D, Commercial Chemical Raw Materials Certificate of Analysis Required

Material provided under this purchase order shall be supplied and certified to the exact description specified in the purchase order.

Material provided under this purchase order shall be obtained from a single identifiable manufacturing lot.

Marking shall include manufacturer’s lot number.

A Certificate of Analysis shall be included with the shipment and shall include
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- Purchase order number
- Identification of the material supplied, as specified on the purchase order
- Lot number(s) covered by the certification (as applicable)
- A statement that the material shipped meets purchase order requirements.
- Data supporting the conformance statement.
- Date of manufacture
- Signature of the Quality Assurance Manager or other responsible member of the supplier's company (a typed name with title on a computer generated document is an acceptable substitute for signature).
- The title of the person signing.
- The supplier's name and address
- Manufacturers name and address if different from seller

Material received without certification is subject to rejection and return to the supplier at the supplier's expense.

Note: Test reports or other supporting documents generated from a computer system with a statement of validity without additional signatures will be accepted providing the certificate portion of the data packet is signed or stamped as outlined above.

01Q021E, Commercial Chemical Raw Materials Certificate of Conformance Required

Material provided under this purchase order shall be supplied and certified to the exact description specified in the purchase order.

Material provided under this purchase order shall be obtained from a single identifiable manufacturing lot.

Marking shall include manufacturer’s lot number.

A Certificate of Conformance shall be included with the shipment and shall include

- Purchase order number
- Identification of the material supplied, as specified on the purchase order
- Lot number(s) covered by the certification (as applicable)
- A statement that the material shipped meets purchase order requirements.
- Date of manufacture
- Signature of the Quality Assurance Manager or other responsible member of the supplier’s company (a typed name with title on a computer generated document is an acceptable substitute for signature).
- The title of the person signing.
NGC
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- The supplier's name and address
- Manufacturers name and address if different from seller

Material received without certification is subject to rejection and return to the supplier at the supplier's expense.

**Note:** Test reports or other supporting documents generated from a computer system with a statement of validity without additional signatures will be accepted providing the certificate portion of the data packet is signed or stamped as outlined above.

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**01Q022, NGC-Supplied Material**

Material (product) used on this purchase is being supplied to you by NGC. It is being supplied directly to you from an NGC facility or a supplier that has been authorized by NGC to ship this product to you. If the material is shipped from an NGC facility, it will be accompanied by a shipping authorization (F91059, or AD-007), as well as certifications for the material. If other than a direct shipment from an NGC facility that supplier is responsible for providing to you a copy of an Authorization to Ship form (Form F98030) in their documentation to you. NGC certifications or F98030 are verification that the product has been accepted by NGC.

NGC-furnished material will be handled and controlled so as to ensure its proper use in conformance to all requirements. The supplier will not in any way be relieved of the responsibility for compliance to traceability, identification, shelf life, and certification requirements. If the supplied material is damaged, discrepant, expired, or will not fit the manufacturing tooling, the material shall not be used, reworked or repaired without approval of NGC.

**When you make delivery of your product** you shall include with the shipment, in addition to the copies of your packing list, quality record sheets, certifications, source inspection acceptance, and other product assurance data required by this order, either (1) a copy of the NGC shipping document/packing list and any certifications supplied to you or (2) a copy of the form F98030 authorizing shipment from another supplier.

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**01Q023, Ammunition Data Cards**

Mil-STD-1168 is a requirement of this purchase order. Three copies of the ammunition data cards are to be completed and submitted with each shipment.

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**01Q023A, Ammunition Lot Numbers and Data Cards, WARP System**

Ammunition lot numbers and ammunition data cards shall be prepared in accordance with MIL-STD-1168 and DI-MISC-80043 and shall follow the format required by the worldwide web application identified as WARP or Worldwide Ammunition-data Repository Program. Additional details on WARP may be provided as an attachment to the purchase order. Prior to gaining access to WARP, contractor/facility personnel involved in the preparation of ammunition data cards shall obtain a user name and password for the Army Electronic Product Support (AEPS) network.
01Q024, Supplier’s Calibration System
The supplier shall control all inspection and test equipment used for acceptance of deliverable items covered by this PO in accordance with ANSI-Z540-1, ANSI-Z540-3, ANSI/ISO/IEC 17025 or ISO 10012. Test reports and or certificates shall be submitted with the shipment and shall be in compliance with the associated calibration system requirement.

A supplier that manufactures and/or calibrates specialized inspection equipment and is not accredited to one of the above calibration standards may, upon approval by the NGC buyer, calibrate such equipment if (1) the standards used are NIST traceable, (2) the calibration process is defined and standardized, and (3) the resulting certifications or reports are essentially comparable to one of the above standards.

The supplier’s calibration system is subject to review and approval by NGC Quality Assurance at all times during the performance of the PO.

01Q025, Domestic Source Required
This item must be produced by a domestic manufacturing source. This includes any raw material used in the manufacturing of the end item. The certification shall identify the original manufacturers and their lot numbers for each lot in the shipment. Multiple lots within a shipment shall be kept separate and clearly identified as to the original manufacturers and their lot numbers.

01Q025A, Preference for Domestic Specialty Metals
This purchase order incorporates the contract clause at DFARS 252.225-7014 Alt 1. This clause was superseded in 2009 and is no longer present in the current DFARS although it still applies to purchase orders written in support of DoD prime contracts awarded prior to January 29, 2009. For the supplier’s convenience, it is presented below in its entirety. When imposed, this quality clause (01Q025A) supersedes the requirement in the General Terms and Conditions TC-03 or TC-04 (as applicable) for compliance with DFARS 252.225-7009.

DFARS 252.225-7014 Preference for Domestic Specialty Metals (incorporating Alt 1).
PREFERENCE FOR DOMESTIC SPECIALTY METALS (JUN 2005)

(a) Definitions. As used in this clause—

(1) “Qualifying country” means any country listed in subsection 225.872-1 of the Defense Federal Acquisition Regulation Supplement.

(2) “Specialty metals” means—

(i) Steel—

(A) With a maximum alloy content exceeding one or more of the following limits: manganese, 1.65 percent; silicon, 0.60 percent; or copper, 0.60 percent; or
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(b) Containing more than 0.25 percent of any of the following elements: aluminum, chromium, cobalt, columbium, molybdenum, nickel, titanium, tungsten, or vanadium;

(ii) Metal alloys consisting of nickel, iron-nickel, and cobalt base alloys containing a total of other alloying metals (except iron) in excess of 10 percent;

(iii) Titanium and titanium alloys; or

(iv) Zirconium and zirconium base alloys.

(b) Any specialty metals incorporated in articles delivered under this contract shall be melted in the United States or its outlying areas.

(c) This clause does not apply to specialty metals melted in a qualifying country or incorporated in an article manufactured in a qualifying country.

(d) The Contractor shall insert the substance of this clause, including this paragraph (d), in all subcontracts for items containing specialty metals.

(End of clause)

01Q026 Quality Provisions in Procurement Specification

The supplier shall comply with all technical, quality assurance, certification, and packaging requirements of the specification to which this item is procured.

01Q027 Electronics COTS

CERTIFICATION AND TRACEABILITY
The Supplier shall provide a Certificate of Conformance with each shipment. The certificate must be dated and signed or stamped by an authorized representative. Failure to submit the certification will result in rejection of the lot. Mark the appropriate container “DATA ENCLOSED”. The Certificate shall include:

Required:
- Supplier’s name and location
- Manufacturer's part number
- Batch identification such as date code, lot code, serial numbers or other identification.
  N/A date codes SHALL NOT be accepted.
- NGC purchase order and line item number(s)
- Quantity of items

As Applicable:
- Shelf life requirements such as shelf-life limitations and storage conditions as recommended by manufacturer or required by specification
- NGC part number, revision level, and description
- All required governing specifications and revisions as specified on the NGC purchase
COUNTERFEIT PARTS PREVENTION
The supplier shall provide authentic parts with traceability certification to the Original Component Manufacturer (OCM). Counterfeit electronic parts and assemblies are defined in SAE AS5553: Counterfeit Electronic Parts, Avoidance, Detection, Mitigation, and Disposition. The supplier shall implement appropriate controls to assure product origin and conformance. This applies to any assemblies that contain electrical parts that could be procured from a sub-tier to the ultimate purchase order supplier. In addition, Quality Assurance Provision 01Q018, Counterfeit Electronic Parts Prevention, establishes specific NGC quality requirements to reduce the risk of counterfeit electronic parts entering NGC’s supply chain. These requirements are applicable to procurement of electronic components by NGC or NGC’s subcontractors.

PACKAGING
Tape and reel, if required, shall be in accordance with EIA-481. All reels must be labeled with applicable information. Verify that each package or reel has the correct part number and date code. N/A date codes SHALL NOT be accepted.

SHELF LIFE
The items supplied under this order are subject to age limitations. The date of manufacture or the cure date and/or expiration date shall appear on each container and on a certificate supplied with the material. Unless otherwise notified the product shall remain useable for a minimum of 12 months after receipt at NGC.

MOISTURE/REFLOW SENSITIVITY
If considered to be sensitive to moisture, surface mount devices shall be handled and packed in accordance with IPC/JEDEC J-STD-033, Handling, Packing, Shipping, and Use of Moisture/Reflow Sensitive Surface Mount Devices.

ELECTROSTATIC DISCHARGE
If the part is considered to be sensitive to electrostatic discharge all containers and paperwork shall be marked accordingly, reference MIL-STD-129, Military Marking for Shipment and Storage, Figure 37. For ESD Class 1 and 2 components all leads must be shorted by material having a surface resistivity (rs) between 1E5 and 1E12 ohms per square. Packing shall provide the necessary protection during shipping. Additional information can be found in MIL-STD-1686, Electrostatic Discharge Control Program for Protection of Electrical and Electronic Parts, Assemblies and Equipment (Excluding Electrically Initiated Explosive Devices), and MIL-PRF-81705, Barrier Materials, Flexible, Electrostatic Discharge Protective, Heat-Sealable. NGC has determined that “Pink Poly” (polyethylene antistatic) bags or material is an unacceptable packaging medium and shall not be used.

SHIPPING AUTHORIZATION
Written authorization from the buyer is required for any deviations from the purchase order requirements, including partial shipments or shipment of multiple date codes per line item as required.

SOLDERABILITY
Solderability of electronic and mechanical components and wires must meet the criteria of J-STD-002 category 3.

**01Q027A Electronics Discharge Sensitive Device Protection**

This Quality assurance provision applies to all electronic components and or assemblies that have any components classified BELOW AS ESD SENSITIVE. The supplier is to supply manufacturing part description information of the devices and declare in the CoC that the product has been packaged in appropriate packaging to prevent part damage (MIL-DTL-81997, Type II (re-closeable)).

**ELECTROSTATIC DISCHARGE (ESD) SENSITIVE DEVICES**

Item (part, component, or assembly) is electrostatic discharge sensitive (ESDS) and must be transported and stored in ESD protective packaging.

ESD protective packaging shall have a layer of low charge generation, dissipative material for intimate contact with ESDS device and a layer of electrostatic discharge shielding material. These layers may be combined into a single protective material or utilized as separate products.

- Static dissipative materials shall have a surface resistance of greater than or equal to $1 \times 10^4$ ohms but less than $1 \times 10^{11}$ ohms.
  - Acceptable materials shall comply with one of the following or equivalent:
    - Bags: MIL-DTL-117, Type 1, Class F, Style 1 (heat sealable)
    - Bags, cushioned: MIL-DTL-81997, Type II (re-closeable)
    - Cushioning: A-A-3129 or PPP-C-795, Class 2 or PPP-C-1797, Type II

- Electrostatic discharge shielding materials are capable of attenuating an electrostatic discharge when formed into a container. The calculated energy allowed inside a static discharge shielding bag shall be less than 50 nanojoules when tested according to ANSI/ESD STM11.31.
  - Acceptable materials shall comply with one of the following, or equivalent:
    - Material: MIL-PRF-81705, Type III (heat sealable)
    - Bags: MIL-DTL-117, Type II, Class H, Style 2 (heat sealable)
    - Bags, cushioned: MIL-DTL-81997, Type I (re-closeable)

Note: Static dissipative materials alone do not provide electrostatic discharge shielding. Reference ANSI/ESD S541, Packaging Materials for ESD Sensitive Items, for further guidance.

Lead or terminal configurations for all items shall be maintained as manufactured without causing loads or stresses capable of causing damage to the item. Materials used to maintain item position and lead or terminal configuration shall permit item removal without damage to the item.

Assemblies containing ESDS items that are completely enclosed in housings made of conductive material shall have any external connectors and plugs (power or signal) covered with conductive caps/plugs.

If bags or pouches are not transparent allowing identification of contents without removal, a label
01Q028 Supplier Assessment

1. **SCOPE**
   1.1 The purpose of this Supplier NGC Assessment Quality Assurance Provision (QAP) is to identify and mitigate risks at the NGC Supplier prior to the start of manufacturing as well as during processing the order.

2. **REQUIREMENTS**
   2.1 The supplier shall provide access to their facility for a Post Award Review (PAR) assessment for the material specified in this Purchase Order.
   2.2 The PAR shall be held prior to the supplier starting fabrication/assembly of deliverable hardware. Work instructions, test procedures, tooling, fixtures, materials, drawings, and schedule shall be made available for review at the time of the PAR.
   2.3 The deliverable output of PAR is a Supplier generated Supplier Requirements Compliance Matrix (SRCM) (supplier format acceptable). The SRCM is intended to provide objective evidence that the supplier will comply with all purchase order requirements, including but not limited to: Technical Data Package requirements, Quality Assurance Provisions, delivery and schedule expectations, and terms and conditions.
   2.4 The supplier shall provide access to their facility for additional NGC assessments as determined by NGC. These assessments may include Product Process Verification (PPV) or other audits of the supplier’s compliance to requirements.

3. **VERIFICATION DATA SUBMISSION**
   3.1 The deliverable output of PAR is a Supplier generated Supplier Requirements Compliance Matrix (SRCM) (supplier format acceptable).

4. **NOTES**
   4.1 The PAR is performed to determine the Supplier’s compliance to contractual requirements within the Supplier’s factory or processes, and to verify requirements are properly translated into the supplier’s facility. Requirements verification may include, but is not limited to: Technical Data Package (TDP) requirements, Key Product Characteristics, quality requirements, delivery requirements, schedule expectations, and terms and conditions.
   4.2 Delta PARs may be used to review revisions to purchase orders or subcontracts.
   4.3 A Product and Process Verification (PPV) is performed to verify the status, health, and discipline of key processes.
4.4 With prior NGC approval, the teams conducting any of the assessments may include government or other customer representatives.