

Counterfeit Electronic Parts Prevention

Quality Assurance Provision establishes specific CF/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 CF/NGC or NGC's subcontractors from the Original Equipment Manufacturer (OEM), Authorized Distributors and Franchised Distributors (supplier other than the manufacture), 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. EEE suppliers shall comply with the below requirements:

- Counterfeit prevention requirements meets AS5553 or DFARS 252.246-7007 & DFARS 252.246-7008.
- Responsibility to notify Northrop Grumman in writing when the source of supply of the EEE part is not authorized or capable of producing traceability for the EEE parts they are supplying.
- Responsibility to ensure EEE parts can be tracked to the OCM when required, including EEE parts contained in assemblies. When such traceability is not available, the supplier must be required to contact Northrop Grumman to execute the appropriate exception process. 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, CF/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 CF/NGC purchase order requirements include a certificate of conformance from the Original Equipment Manufacturer or a Franchised Distributor. 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 CF/NGC requirements and related engineering drawings, including:
 - Procurement of parts only from Manufacturer or Authorized Distributor(s), when available within CF/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 CF/NGC Purchase Order. A certificate which certifies the vendor part number, with the CF/NGC ordered part number identified as Reference or Customer P/N, does not indicate certification to the CF/NGC ordered part number, if the CF/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.

In general, Northrop Grumman procures customer deliverable electronic parts from Preferred Sources whenever those sources can supply the parts. If EEE Parts are not in production by the original manufacturer or an authorized aftermarket manufacturer and not available from Preferred Sources, a Quality-approved Independent distributor Broker (non-franchised distributor) may be used after risks and alternatives have been rigorously considered, and special authorization granted per Sector Command Media. When DFARS 252.246-7008 applies and parts are in production, but not sufficiently available to support Program requirements, Northrop Grumman and its supply chain must receive Contracting Officer authorization to obtain triple E parts from a non-Preferred Source. If EEE parts are not in production and are only available from an independent distributor that is not approved by Quality, DFARS 252.246-7008 requires Northrop Grumman to notify the Contracting Officer. Programs should establish appropriate processes to comply with unique contract requirements.

- 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 CF/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. Have all authenticity validation tests and inspections, e.g., AS6171, performed or managed per the requirement of the Purchase Order (PO). 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 CF/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 CF/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 CF/NGC buyer for lot disposition prior to the use of any devices in the lot.

Additional Requirements for Suppliers

- Have a process for screening credible sources of counterfeiting information and communicate issues or concerns to their supply base as appropriate. For United States and or Canadian Suppliers, the process must include the screening of the Government Industry Data Exchange Program (GIDEP).
 - o The process must ensure that all occurrences where it has acquired suspect/counterfeit EEE parts are reported to GIDEP in a timely manner. o NOTE: If the supplier is not eligible to be a GIDEP member (i.e. – not located in the United States or Canada) and Northrop Grumman becomes aware of a suspect counterfeit part, Northrop Grumman may issue a GIDEP on that suspect counterfeit part. o NOTE: If Northrop Grumman becomes aware of a counterfeit situation encountered by one of its GIDEP eligible members, then after appropriate discussions, including with the Law Department, Northrop Grumman may issue a GIDEP on that suspect counterfeit part if supplier does not timely do so.
- Immediately report to the NG Buyer/SCA about suspect counterfeit parts related to its Northrop Grumman contract.
- Respond to any suspect counterfeit inquiries made by Northrop Grumman regarding the authenticity of products provided by the supplier.
- Take corrective and preventive actions on all suspect counterfeit parts.
- Impose applicable contractual requirements on all tiers of its supply chain.

- Make records available, as necessary to conduct audit(s). Record retention is the responsibility of the supplier and in accordance with the terms and conditions of the applicable PO.
- Provide Northrop Grumman and Northrop Grumman's customers' access to their facilities and the facilities of their supply chain at all tiers, to verify compliance with Northrop Grumman PO requirements.

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 CF/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.

- o 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 CF/NGC buyer for lot disposition prior to the use of any devices in the lot.

Documentation Requirements: Documentation requirements shall be in accordance with CF/NGC and/or as directed by the procuring site's purchase order.