Q601 Consigned Material Reporting (Rev 01/08/18)

You are provided materials by GD-OTS, Inc. that are used in the products you manufacture for GD-OTS. An accounting of these materials that are consumed during the manufacture of a lot of product but not included in product in the shipment (e.g. parts consumed during destructive testing, Lot Acceptance Testing, or scrapped in process as part of a scrapped assembly or sub assembly) must be accounted for. Include, on your Certificate of Conformance (CoC) for each lot, an inventory accounting by part number of the quantity of consigned parts consumed during the manufacture of the lot that are not included in the delivered product.

Q602 Industry Standard Revisions (Rev 09/04/18)

Revisions or replacements to Government/Industry Standards referenced in the Technical Data Package (TDP) or referenced within these Standards, including those for raw materials, shall be considered process changes. (Examples of Government Standards are documents controlled by the Government and typically begin with MIL-STD, MIL-DTL, MIL-PRF, etc. Industry Standards are those controlled by organizations such as ASTM, ANSI, SAE, etc.) Should there be a need to move to a new revision after completion of the Baseline Qualification, Seller shall request and must receive written GD-OTS approval prior to implementing any revision or replacement to a referenced Government/Industry Standard in order to determine the revised standard's impact on product. Seller's request for such a change shall be formally submitted to the GD-OTS Subcontract Manager using the GD-OTS Process Change Request Form (PCR), QS-FM-10.6.1. The PCR template is available on the GD-OTS SharePoint collaboration site.

The revision of record shall be the revision documented in the Qualified Baseline and will be the revision current as of 9/15/2014. Later revisions can be incorporated provided they are included in the execution of the Baseline Qualification First Article Test.

Seller shall flow the substance of this clause to its subcontractors for items purchased in support of this Purchase Order, including this paragraph, changing the relationship of the parties and processes as appropriate to preserve the intent of the words. This clause need not be flowed to suppliers of Commercial Off-The-Shelf (COTS) items.

Q603 ISO 9001 Registration (Rev 01/08/18)

The Seller shall provide and maintain a Quality Management System that is registered to ISO 9001, Quality Management Systems – Requirements. The registration body shall be accredited by a recognized accreditation body such as the ANSI-ASQ National Accreditation Board (ANAB). System registration to a higher level Quality Management System such as AS9100 shall be an acceptable alternate. Compliance with the provisions of this clause does not relieve the Seller of final responsibility to furnish acceptable supplies or services as specified herein. The Seller shall make available for review to GD-OTS and the Government, quality system manuals procedures, planning and all other documentation that comprise the Seller's Quality Management System for both hardware and software. GD-OTS and the Government may review the quality system documentation and may perform any

necessary inspections, evaluations, or audits to confirm conformance to requirements and adequacy of the quality system.

Q604 ISO 9001 Compliance (Rev 12/31/14)

The Seller shall provide and maintain a Quality Management System that is compliant to ISO 9001, Quality Management Systems – Requirements. Compliance with the provisions of this clause in no way relieves the seller of the final responsibility to furnish acceptable supplies or services as specified herein. The Seller shall make available for review by GD-OTS and the Government, quality system manuals, procedures, planning and all other documentation that compromise the Seller's quality system for both hardware and software. GD-OTS and the Government may review the quality system documentation and may perform any necessary inspections, evaluations, or audits to confirm conformance to requirements and adequacy of the quality system.

Q605 Quality Management System – AS9003 (Rev 6/15/15)

The Seller shall provide and maintain a Quality Management System (QMS) that complies with AS9003, Inspection and Test Quality Systems Requirements for Aviation, Space, and Defense Organizations. The Seller shall demonstrate compliance for the life of this contract by:

- providing GD-OTS with a copy of current AS9100 or ISO9001 registration certificate and all subsequent updates;

- or periodically passing an AS9003 compliance audit performed by GD-OTS representatives.

Compliance with the provisions of this clause in no way relieves the Seller of the final responsibility to furnish acceptable supplies and/or services as specified herein.

The Seller shall make available for review by GD-OTS and the Government, quality system manuals procedures, planning and all other documentation that compromise the Seller's quality system for both hardware and software. GD-OTS and the Government may review the quality system documentation and may perform any necessary inspections, evaluations, or audits to confirm conformance to requirements and adequacy of the quality system.

Q606 Calibration System Requirements (Rev 12/31/14)

The Seller shall provide and maintain a calibration system that complies with one or more of the following Calibration System Requirements standards: ISO/IEC 17025, ISO 10012:2003, or NCSL Z540.3. All calibrated equipment shall be traceable to the National Institute of Standards and Technology (NIST).

Compliance with the provisions of this clause in no way relieves the Seller of the final responsibility to furnish acceptable supplies or services as specified herein.

This provision shall be applicable to all inspection, test and measuring equipment supplied by the buyer for the use of the Seller, as well as the Seller's own equipment.

Seller shall flow the substance of this clause to its subcontractors, including this sentence, changing the relationship of the parties as appropriate to preserve the intent of the words.

Q607 Supplier Audits (Rev 01/08/18)

The Seller and all of Seller's subcontractors, at any tier, shall accommodate GD-OTS audits. Periodically, GD-OTS will facilitate a system, process, and/or product audit at each subcontractor's facility. These audits may include Government representatives depending on the complexity of the product, the size of the facility, and the content of the audit. The activity may require several days to complete. A minimum of twenty (20) calendar days advance notification will be given to the Seller. GD-OTS and Seller will negotiate a mutually agreeable schedule. Audit follow-up visits will be scheduled and conducted, if required.

Q608 Quality Records (Rev 07/13/16)

Quality records pertinent to acceptance of raw materials, components or end item assembly lots shall be retained ten (10) years after GD-OTS acceptance of the associated end item lots. This includes quality acceptance records for all components and assemblies contained in the end item assembly lot.

Quality in-process records shall be retained for five (5) years after production or as long as residual production inventory is retained in storage, whichever is longer.

The records shall be readily retrievable and stored in an environment that prevents damage, deterioration, or loss.

Seller shall flow the substance of this clause to its subcontractors, including this sentence, changing the relationship of the parties as appropriate to preserve the intent of the words.

Q609 Quality Assurance Program Plan (Rev 01/08/18)

The Seller shall provide to GD-OTS a Quality Assurance Program Plan (QAPP) in Seller format. The QAPP shall contain the information required to identify how the contractor shall satisfy the specific quality tasks within the Master Subcontract Agreement (MSA)/Purchase Order (PO) and describe the Seller's understanding of all documentation tasks for meeting the contractual requirements.

The QAPP shall include the technical and manufacturing aspects of production, raw materials, facilities involved, and personnel required.

The QAPP shall provide the organizational structure and responsibilities that will influence the quality of the products.

Elements which shall be addressed include quality planning, implementation, control and monitoring; significant interfaces that affect products, contracts/contract review, problem reporting and resolution; evaluation of audit results; authorization for deviation to quality policy; control of corrective and preventive actions and supplier quality management.

The QAPP shall be submitted within ninety (90) calendar days after MSA/PO issue and is subject to GD-OTS approval.

Q610 Notification of DCMA Request for Corrective Action (Rev 11/10/15)

Upon receipt and/or notification of a DCMA Corrective Action Request (CAR) that impacts product supplied to GD-OTS including notification for system level CARs that may not be related to a specific product the supplier shall provide notification to the GD-OTS buyer within three (3) workdays and forward a copy of the CAR to GD-OTS.

A copy of the CAR response submitted to DCMA shall also be submitted to GD-OTS upon submission to the DCMA. GD-OTS shall also be notified of any changes in due dates for submission of the response to DCMA.

Q611 Supplier Quality Management Plan (Rev 5/9/16)

The Seller shall develop policies and procedures for managing Supplier Quality. The Supplier Quality Management Plan shall identify processes for selecting, qualifying and managing suppliers, managing product and processes, flowing quality requirements to suppliers, product acceptance, Source Inspection, and establishing metrics for continuously monitoring and rating supplier quality performance. Where a QAPP has been required (reference clause Q609), the Supplier Quality Management Plan shall be documented in the QAPP.

Q612 Software Quality Assurance (Rev 11/10/15)

The Seller shall ensure that software development and quality records are available for GD-OTS and Government review at the Seller's facility. This applies only to software developed by the Seller used in controlling manufacturing operations or inspection and test equipment.

Seller shall flow the substance of this clause to its subcontractors, including this sentence, changing the relationship of the parties as appropriate to preserve the intent of the words.

Q613 Nonconforming and Noncompliant Material (Rev 01/08/18)

The Seller shall develop, implement, and maintain a nonconforming material management system. The system shall be used for positively controlling nonconforming material and shall be used for tracking, analyzing to determine root cause, and assuring effective corrective/preventive action implementation.

No Material Review Authority (MRA) is delegated to Seller or its subcontractors. Seller and all sub-tier suppliers are not authorized to disposition nonconforming or non-compliant material produced under this Agreement "Use As Is" or "Repair."

Seller is not authorized to rework material unless the rework is performed in accordance with a GD-OTS, approved rework procedure. Approval is dependent on evidence of a previously validated rework process or will require a new process validation. Reworked material shall be restored to design conformance. Each shipment shall include records of reworked material contained within the shipment.

"Use As Is" and "Repair" dispositions require approval from GD-OTS, Inc. prior to implementation. Seller is not authorized to retest material without prior GD-OTS, Inc. approval.

Seller shall flow the substance of this clause to its subcontractors, including this sentence, changing the relationship of the parties as appropriate to preserve the intent of the words.

Q614 Disclosure of Nonconforming or Noncompliant Material (Rev 01/08/18)

The Seller shall notify the GD-OTS buyer in writing no more than two workdays after discovery of any nonconformance or noncompliance that may exist in delivered product. The notification shall include a description of the nonconformance or noncompliance, potential risk or product impact, GD-OTS purchase order number, part number, lot number, affected serial numbers, and quantity of nonconforming or noncompliant parts.

Q615 Product Acceptance System (Rev 12/31/14)

The Seller shall plan, develop, implement, control and maintain an overall product acceptance system that demonstrates compliance to all technical and contractual requirements. Where a QAPP has been required (reference clause Q609), the Product Acceptance System shall be documented in the QAPP. The Product Acceptance System shall address system, subsystem, and component requirement verification, raw material inspection, receiving inspection, in-process inspection, source inspection, and final acceptance testing at all levels, including lower tier suppliers.

Seller shall flow the substance of this clause to its subcontractors, including this sentence, changing the relationship of the parties as appropriate to preserve the intent of the words.

Q616 Sampling Procedures (Rev 01/08/18)

The Seller shall perform or have performed all inspections and tests to demonstrate that all material furnished under this contract conforms to all technical and contractual requirements. The Seller shall use the sampling procedures and AQL levels specified within the Technical Data Package (TDP). If the TDP does not specify a sampling procedure, the Seller shall utilize ANSI/ASQ Z1.4 (Rev 2013), General Inspection Level II, Single Sampling Plan for Normal Inspection. If the TDP does not specify an AQL for a characteristic, the following AQLs shall be used: Major Characteristics shall have an AQL of 0.40% and Minor Characteristics shall have an AQL of 0.65%. Unless otherwise specified in the TDP, Special/Safety/Critical Characteristics shall be inspected 100%.

The Seller shall maintain objective evidence of the completion and acceptance of all inspections and tests to the proper Sampling Procedure and AQL.

The Seller shall flow the substance of this clause, including this sentence, to its subcontractors that create characteristics identified in the TDP as Safety, Special, Critical, Major, or Minor, changing the relationship of the parties as appropriate to preserve the intent of the words.

PLEASE VERIFY YOUR AQL LEVELS AS THEY MAY HAVE CHANGED

Q617 Lot Acceptance Test (Rev 09/04/19)

The Seller shall perform Lot Acceptance Tests (LAT) in accordance with TDP requirements. Ballistic LAT (BLAT) shall be performed at the Government Test Center in Yuma, AZ in accordance with Government provided test plans. Access to the Yuma Test Center as well as related test services, including Explosive Ordnance Disposal and recovery efforts will be provided by the Government. GD-OTS will coordinate BLAT testing schedules with the Government. The Seller shall prepare and submit for GD-OTS approval non-ballistic LAT Plans in accordance with DI- NDTI-80603 no later than seventy-five (75) calendar days prior to the LAT event. Plans are subject to GD-OTS and Government approval and shall be submitted prior to execution of the Baseline Qualification FAT (reference clause Q620).

The Seller shall provide written notification (e-mail is acceptable) to the assigned Government representative(s) and the GD-OTS buyer a minimum of two (2) workdays in advance if the DCMA representative is resident on site and a minimum of seven (7) workdays advance notification if the DCMA representatives not resident on site before non-ballistic LAT testing is scheduled to commence.

The Seller shall provide LAT Reports in accordance with DI-NDTI-80809 for all non-ballistic LAT tests performed. Reports shall be provided no later than twenty-one (21) calendar days after completion of the LAT.

The Seller shall perform a failure analysis and shall prepare and submit a detailed Failure Summary and Analysis Report (FSAR) in accordance with DI-RELI-80255 for all LAT failures which includes individual item failures that do not result in lot rejection. The Seller shall provide written notification of all LAT failures, including individual item failures that do not result in lot rejection, within three (3) workdays of completion of the LAT. In the event that the failure(s) does not result in LAT rejection, the Seller shall document and implement corrective and preventive actions for continuous improvement. The FSAR is due no later than twenty-one (21) calendar days after the failure incident.

In the event that the failure(s) during LAT result in a Lot rejection, the Seller shall, in addition to a FSAR, prepare and submit a Corrective Action Plan in accordance with DI-RELI-80254. The Corrective Action Plan is due 14 calendar days after approval of the FSAR. For rejected lot(s), the Seller is not authorized to submit any component or end item to GD-OTS or the Government for inspection and acceptance for the affected lot(s) or subsequent lot(s) prior to GD-OTS approval.

Q618 Inspection and Test Equipment Validation Plans and Reports (Rev 09/04/19)

The Seller and its suppliers shall maintain and ensure all production and manufacturing related equipment, including inspection and test equipment (ITE); tools; fixtures; jigs are appropriate and capable of the required accuracy and precision for determining conformance to all technical and contractual requirements, design, and performance and process characteristics.

Where a Baseline Qualification FAT is required, inspection and test equipment used to inspect characteristics identified as Safety, Special, Critical or Major are subject to validation. An ITE Validation plan will be authored by GD-OTS with input from the supplier. Suppliers are required to

comply with all aspects of the approved plan. ITE Validation is subject to approval by GD-OTS and the validation shall be completed and approved by GD-OTS prior to the execution of the Baseline Qualification FAT. Repeatability and Reproducibility studies are required as part of the ITE Validation for Test Equipment and Inspection Equipment that is new, modified, or relocated. Variable R&R studies shall have a P/T ratio less than or equal to 0.25.

Where new or modified inspection or test equipment is to be used to inspect or test characteristics classified in the Technical Data Package as Safety, Special, Critical, or Major, the Seller shall submit an Inspection and Test Equipment Validation Plan. The Validation Plan shall be submitted in the format of the GD-OTS Gage Validation Plan Template, QS-TP-10.6.8. The template can be obtained on the GD-OTS SharePoint collaboration site.

The Seller is responsible for ensuring that existing inspection and test equipment is capable of performing the required inspection with sufficient accuracy and precision for determining conformance to all technical and contractual requirements in accordance with Q640 -Inspection and Test Measurement Guard Banding.

i. An Inspection and Test Equipment Validation Plan shall not be executed until approved by GD-OTS, Inc. Should GD-OTS, Inc. reject a Plan submission, a revision to the Plan shall be submitted to GD-OTS, Inc. within ten (10) calendar days of the rejection.
ii. Provision shall be made for GD-OTS, Inc. and/or Government representatives to witness all or any portion of the execution of the Validation Plan at their discretion. As such a minimum of twenty-one (21) calendar day notice is required prior to beginning execution of the Plan.

Upon completion of the execution of the Validation Plan the Seller shall submit the completed validation data sheets to GD-OTS within five (5) workdays of completion of the execution of the validation. GD-OTS will author the formal validation report for submission to the Government. Use of Inspection and Test equipment shall not be initiated prior to approval by GD-OTS, Inc.

Q619 Master List of Inspection and Test Equipment (Rev 01/08/18)

The Seller shall maintain on site a copy of the listing of all the GD-OTS approved equipment to be used for production acceptance inspection and tests of characteristics classified as Safety, Special, Critical, Major, or Minor. The listing shall be complete to the level of sub-tier suppliers that perform the acceptance inspection on these characteristics. The listing shall include: (1) equipment brand (make, model, serial number, etc.): (2) characteristic(s) the equipment measures or tests; and (3) the corresponding specification and Classification of Defect. GD-OTS will create the master list with input from the supplier. Upon completion of the list, GD-OTS will flow to the supplier a revision controlled copy of the master list for each part number the supplier provides. This flow will be through a modification to the Purchase Order (PO) or Long Term Agreement (LTA). Subsequent modifications to the Master List will be flowed through modifications to the PO or LTA. The Seller shall maintain a copy of the list and ensure that a copy of the list is available for in plant review by GD-OTS and the Government at the Seller's site and the site of any affected sub-tier supplier.

Where Standard Measuring Equipment (SME) as defined in QS-AP-10.6.1 is used, the identification number of the unit expected to be used for the Baseline Qualification FAT will be listed on the Master List of Inspection and Test Equipment in the Serial Number/Identification Number Column. In the Description of Equipment column, the description shall be followed by the words "or equivalent." For the purposes of SME, equivalent SME is defined as SME of the same make and model as the listed piece of equipment, or the same make but a different model provided the resolution and accuracy of the gage is as good as or better than the listed piece of equipment, or a different make and similar model provided the resolution and accuracy of the gage is as good as or better than the listed piece of equipment. This will apply only to SME and shall not be applied to test equipment and other items not considered SME, for example, electronic testers, radiographic equipment, coordinate measuring machines, etc. If multiples of equipment not considered SME are to be used, the serial number/identification number of each piece of such equipment shall be listed.

Q620 Baseline Qualification First Article Test (Rev 09/04/19)

The Seller shall perform Baseline Qualification First Article Testing (FAT) prior to initial delivery for use on the W31P4Q-14-C-0154 government prime contract to ensure that the systems, subsystem, component, and material comply with all TDP requirements. The Baseline Qualification FAT shall include verification of all TDP characteristics and tests as documented in the prints, specifications, etc.

I. Requirements Prior to Execution of the Baseline FAT

1. Baseline FAT Plan

a. GD-OTS will author the Baseline Qualification FAT Plan and will seek input from the supplier as needed to ensure accuracy and adequacy of the plan. Suppliers are required to comply with all aspects of the approved plan.

i. The Plan will cover all characteristics of the TDP, prints, specifications, etc. to the extent that a sub tier supplier generates characteristics referenced by an applicable print or specification, these characteristics shall be incorporated in the plan. Since the Baseline Qualification FAT Plan may be extensive and extend to sub tier supplier's facilities, the Seller shall provide GD-OTS an anticipated timeline for execution of the various pieces of the FAT.

The use of standard rework procedures shall be documented and included in the Baseline Qualification Plan and validated as part of the execution. The Seller shall work with GD-OTS in planning the content of the Baseline Qualification FAT Plan to satisfy the needs of the Seller.

ii. GD-OTS will notify the Seller when the plan has been approved for execution and coordinate schedule with the Seller.

iii. GD-OTS will generate and provide to the Seller data sheets in accordance with the requirements of SAE Aerospace Standard AS9102, using Form 1: Part Number Accountability; Form 2: Product Accountability – Raw Material, Specifications, and Special Process(es), Functional Testing; and Form 3: Characteristic Accountability, Verification and Compatibility

Evaluation. The Seller shall supply information regarding the gaging/test equipment to be used to accomplish each required inspection. The Seller's responsibility shall be to enter the results of each inspection/test on the appropriate AS9102 forms, provide required material and process certifications, etc. at the time of the execution of the Baseline Qualification FAT.

iv. Sample sizes for validation shall be as noted on the AS9102 data sheets.

v. A series of AS9102 data sheets will be provided for each end item deliverable to GD-OTS, applicable sub-assemblies, sub-components and raw materials.

b. GD-OTS will provide to the Seller a "ballooned" print numbering each characteristic, dimension, and note.

c. The Seller shall provide a Baseline Process Flow Map for each end item deliverable to GD-OTS. The baseline map shall include process step description, equipment used at that process step (including make, model, and serial number), the name, number, and revision level of any process work instructions applicable to that operation. The map shall also include a description of all inspection and test equipment used at that process step; indicate if Statistical Process Control (SPC) is used at that process step, any standard equipment adjustments and whether there are any approved rework processes. Baseline Process Flow Maps shall also be supplied for sub tier suppliers that supply components that are detailed in a print as well as for suppliers of Special Processes (e.g. painting, plating, chromate finishing, etc.). COTS items, raw materials and distributor supplied items are exempted from the Baseline Process Flow Map requirement. The Baseline Process Flow Map shall be submitted in the format of the GD-OTS Process Flow Template, QS-TP-21.0.1. The Baseline Process Flow Map shall be provided to GD-OTS prior to the execution of the Baseline Qualification FAT. The template can be obtained on the GD-OTS SharePoint collaboration site. Seller format is acceptable if approved by GD-OTS.

d. Requirements for Inspection and Test Equipment Validation covered in Clause Q618 shall be completed prior to execution of the Baseline Qualification FAT.

II. Baseline Qualification FAT Execution

1. Once the Baseline FAT Plan has been approved, provision shall be made for GD-OTS and/or Government representatives to witness all or any portion of the execution of the Baseline Qualification FAT at their discretion. Seller shall notify GD-OTS in writing what date they will be ready to begin execution of the Baseline Qualification FAT a minimum of thirty-five (35) calendar days in advance of that date to allow for required notification to the customer.

2. Samples for the Baseline Qualification FAT shall be manufactured using the process and equipment that will be used for production and shall be selected from the first production lot. Where MIL-STD-1168 lot numbering is required, lots shall be identified as a First Article Lot in accordance with MIL-STD-1168. The size of this lot shall be approved by GD-OTS for items at the

deliverable part number level. First Article lots from sub-tier suppliers will be expected to be of sufficient size to support the First Article lot at the deliverable part number level.

3. Testing and Inspection shall be performed at the facility at which the inspection and test equipment resides.

III. After Baseline Qualification FAT Execution

1. Upon successful execution of the Plan the supplier shall provide GD-OTS with all test reports, certifications, and data sheets completed as part of the execution of the Baseline Qualification FAT. This information shall be provided to GD-OTS within seven (7) calendar days of the completion of the execution of the Baseline Qualification FAT.

2. Production beyond the first article lot may not begin until contractually directed by GD-OTS.

3. GD-OTS will prepare the Baseline Qualification FAT Report for submission to the Government for approval. The Seller shall provide assistance to GD-OTS as needed to support any clarifications or additional information required to respond to Government questions or concerns.

4. Residual components of the Baseline Qualification Lot shall be considered sellable product provided they meet all TDP requirements, acceptance inspection AQL, and LAT requirements.

Q621 Statistical Process Control (Rev 01/08/18)

Seller shall submit a Statistical Process Control Program Plan for GD-OTS approval, in Seller format, using the GD-OTS SPC Program Plan Template QS-TP-21.0.4 and ISO 11462-1 as guidance. The SPC Program Plan shall be submitted within ninety (90) calendar days of initial Master Subcontract or Purchase Order issue, whichever is earlier.

Seller shall submit a Statistical Process Control Data Report for applicable characteristics and/or processes in accordance with Seller's approved Product and Process Control Plans. This report shall be prepared in accordance with the GD-OTS SPC Data Sheet. The Seller is responsible for downloading the latest template version from the GD-OTS SHAREPOINT Collaboration Site. The report shall include data analysis, control charts and supporting raw data. The data submission shall be in electronic format compatible with Microsoft Excel or Access. The Statistical Process Control Data Report shall document the Root Cause, Corrective Action, and Preventive Actions for applicable variable characteristics and/or processes that exhibit a Process Capability (Cpk) < 1.33 and attributes characteristics and/or processes that exceed 65 Defective Parts Per Million (DPPM).

Seller's Statistical Process Control Data Report shall be submitted monthly for each current month, by the 15th of the next month.

Q622 Source Control (Rev 01/08/18)

A supplier specified on the source control drawing is the only acceptable source for this material. If material is purchased from a supplier or distributor, not specified on the drawing, evidence must be provided that the supplier specified on the drawing actually manufactured the material.

Q623 Lot Numbering – General (Rev 01/08/18)

The Seller shall ensure that each end item and sub-component is traceable to the product batch/lot number, the date of manufacture, the configuration revision level, and the process revision level. Seller shall ensure that this requirement is followed by and flowed to their supply base and sub-tier supply base. A batch/lot is defined as product that has been blended, mixed, or fabricated during an uninterrupted manufacturing run using the same tools, process, and material. Components in an end item assembly lot shall be traceable to supplier lots and base material lots.

Q624 Lot Numbering – MIL-STD-1168 (Rev 07/13/16)

Product lots shall be numbered in accordance with the requirements of MIL-STD-1168. Seller shall flow the substance of this clause to its subcontractors supplying components on the MIL-STD-1168 Lot Identification List, including this sentence, changing the relationship of the parties as appropriate to preserve the intent of the words. A list of part numbers requiring MIL-STD-1168 lot numbering is included in the Purchase Order (PO) or Section E of the Long Term Agreement (LTA). Subsequent modifications to this list will be flowed through modifications to the PO or LTA.

Q625 Soldering (Rev 12/31/14)

Seller shall solder in accordance with ANSI/IPC/J-STD-001, Class 3, (Rev F July, 2014).

Seller shall flow the substance of this clause to its subcontractors performing soldering of electrical components or assemblies, including this sentence, changing the relationship of the parties as appropriate to preserve the intent of the words.

Q626 Shelf Life – 80% (Rev 12/31/14)

Age controlled material must have 80% of its shelf life remaining at the time of shipment. Each shipment is to be identified with the date of manufacture/date of expiration. The container(s) shall not be damaged.

Q627 Critical Characteristics Control Plan (Rev 09/04/19)

The Seller's processes shall be designed with the objective of preventing the creation or occurrence of critical characteristic defects as documented in the Technical Data Package. The Seller shall create and maintain a Critical Characteristic Control Plan (CCCP) in Seller format covering all critical characteristics specified in the TDP and contained in the products provided by the Seller. The CCCP shall be submitted prior to execution of the Baseline Qualification FAT and requires GD-OTS approval.

Seller shall flow the substance of this clause to its subcontractors that produce a critical characteristic as part of their process, including this sentence, changing the relationship of the parties as appropriate to preserve the intent of the words.

The CCCP shall contain at a minimum the following:

• A Process Failure Mode and Effects Analysis (PFMEA) document analyzing all potential modes that could result in production of a critical item defect nonconformance, countermeasures to be taken for each failure mode to reduce or prevent occurrence, mistake proofing efforts and methods for determining that processes creating critical characteristics are capable and under control. GD-OTS PFMEA Template, QS-TP-21.0.2 shall be used. The template can be obtained on the GD-OTS SharePoint collaboration site.

• Inclusion or reference to all procedures, work and handling instructions and process controls relating to any critical characteristics.

• A Critical Defect Reaction Plan detailing the actions to be taken when a Critical Defect has been produced or exceeds a threshold level.

• Critical Defect Reporting Plan. A lot report of the quantity of product produced and number of critical defects produced during the processing of the lot (by part number and critical characteristic number) shall be provided to GD-OTS with each lot shipment.

• A Critical Defect Escape Plan detailing the containment action to be taken and reporting protocol should a Critical Defect Escape occur. A Critical Defect Escape occurs when a non-conformance of a critical characteristic is detected after the planned inspection/test acceptance point utilizing the approved Inspection and Test Equipment (ITE). Whenever there is a Critical Defect Escape, an initial Critical Defect Notification shall be provided to the GD-OTS Buyer in writing within two (2) calendar days of the critical defect discovery. The notification shall include a description of the Critical Defect, potential risk or product impact, GD-OTS Purchase order number, part number, lot numbers affected (and serial numbers when applicable) and the operation at which the Critical defect was discovered. The notification shall indicate the immediate steps taken to identify and contain suspect product. A root cause Failure Analysis Report and Corrective Action Plan is required for each Critical defect escape occurrence. End items or components shall not be submitted for GD-OTS/Government inspection or acceptance for the affected lot(s) or subsequent lot(s) until the Failure Analysis Report and Corrective Action Plan have been approved.

• Method(s) by which the processes that create critical characteristics shall be ensured to be capable and under control.

• Method(s) and schedule that the seller shall use to assess the reliability and effectiveness of its critical processes to prevent generating critical non-conformances.

Q628 Changes to a Qualified Baseline (Process Change) (Rev 09/04/19)

Changing the Qualified Baseline is a formal time consuming process that requires GD-OTS and US Government approvals. All proposed changes should be planned months in advance of required implementation. Seller shall request and receive written GD-OTS approval prior to making any changes that deviate from the qualified baseline (either that qualified in the Baseline Qualification FAT or by subsequent qualified modification). This change requirement shall be applicable to the lowest level of supplier in the supply chain at which the characteristic is generated. Attachment 0012 (included below) contains a listing of changes that require notification and approval. Seller must make a formal request for any such change. Seller's request for such a change shall be formally submitted to the GD-OTS Buyer using the GD-OTS Process Change Request (PCR) Form, QS-FM-10.6.1. The form can be obtained on the GD-OTS SharePoint collaboration site. Note: The manufacturer of a Commercial/COTS item used for Baseline Qualification is considered part of the Qualified Baseline and subject to these requirements should there be a need to change the manufacturer. Commercial/COTS items may be purchased from any distributor as long as the manufacturer is the manufacturer established as part of the Qualified Baseline. (Commercial/COTS items are as defined in FAR 2.101)

GD-OTS will determine the level of verification required for every change. Depending on the level of change, Validation Not Required, Internal Validation, First Piece Inspection (FPI), a First Article Test (FAT), a Tailored FAT, or a Requalification may be required. The Seller shall not implement such changes, or commence validation activities without prior review and approval of GD-OTS. Once the appropriate level of validation has been agreed upon, the Seller shall proceed with validation in accordance with the following requirements. Validation activities shall be performed with the facilities, production processes, methods, materials, personnel and equipment that will be used for production.

FAT/TFAT – Seller submits Plan using the GD-OTS FAT Plan Template, QS-TP-10.6.1. Execution of the validation shall not begin until the Plan has been approved by GD-OTS. If a Plan is rejected, Seller has fifteen (15) calendar days to submit a revision. Upon approval of a Plan, Seller must give a minimum of thirty-five (35) calendar day notice of the planned execution date. Suppliers are required to comply with all aspects of the approved plan.

Once the Plan has been executed, seller has fifteen (15) calendar days to submit a validation Report using the GD-OTS FAT Report Template, QS-TP-10.6.2. Should a report be rejected, Seller has fifteen (15) calendar days to submit a revision. The template can be obtained on the GD-OTS SharePoint collaboration site. Production with incorporation of the change shall not begin without written authorization from GD-OTS.

FPI – Seller submits plan using the GD-OTS FPI Plan Template, QS-TP-10.6.3. Execution of the validation shall not begin until the Plan has been approved by GD-OTS. If a plan is rejected, Seller has fifteen (15) calendar days to submit a revision. Upon approval of a plan, Seller must give a minimum of thirty-five (35) calendar day notice of the planned execution date. Suppliers are required to comply with all aspects of the approved plan.

Once the plan has been executed, seller has fifteen (15) calendar days to submit a validation report using the GD-OTS FPI Report Template, QS-TP-10.6.4. Should a report be rejected, Seller has fifteen (15) calendar days to submit a revision. The template can be obtained on the GD-OTS SharePoint collaboration site. Production with incorporation of the change shall not begin without written authorization from GD-OTS.

Internal Validation is performed at the cognizance of the Seller. Seller shall retain records of the results of the internal validation and have them available for review upon request.

Validation Not Required - Notification **is not** required for Attachment 0012 Ref#s 308 and 309 however, these activities shall be documented internally by the subcontractor making the change. A PCR notification and GD-OTS approval **is** required for Ref# 310.

Inspection/Test Equipment Validation – Inspection and Test Equipment Validation shall be completed in accordance with the requirements of Q618.

Seller shall flow the substance of this clause to its subcontractors, including this sentence, changing the relationship of the parties as appropriate to preserve the intent of the words.

Attachment 0012
PROCESS CHANGES
W31P4Q-14-C-0154

REF#	Description of Changes
100	**Design Changes**
101	Design changes or changes resulting in change to system MOD designation
102	Any change impacting safety or system performance requirements
103	Changes that affect items requiring outside agency involvement (i.e. Navy Weapon System Explosive Safety Review Board (WSESRB), Army Fuze Board, etc.)
104	Changes that impact either system or component level interface requirements
105	Changes resulting from unexpected events such as part obsolescence
106	Use of a lower reliability part
107	Performance data for the new or redesigned item not sufficient to demonstrate that it will perform to the same extent as the item it is replacing
200	**Changes to Manufacturing Facility**
201	Manufacturing plant location change for explosives or an item with a characteristic classified as Safety, Special, Critical, Major or Minor.
202	Manufacturing plant location change for an item without a characteristic classified as Safety, Special, Critical, Major or Minor.
203	Out of production over twelve months for explosives or an item with a characteristic classified as Safety, Special, Critical, Major or Minor.
204	Out of production over twelve months for an item without a characteristic classified as Safety, Special, Critical, Major or Minor.
205	Addition of a production line for explosives or an item with a characteristic classified as Safety, Special, Critical, Major or Minor.
206	Addition of a production line for an item without a characteristic classified as Safety, Special, Critical, Major or Minor.
207	Dismantling and restarting the production line for explosives or an item with a characteristic classified as Safety, Special, Critical, Major or Minor.
208	Dismantling and restarting the production line for an item without a characteristic classified as Safety, Special, Critical, Major or Minor.

209	Machine Control Upgrades for an item with a characteristic classified as Safety, Special, Critical, Major or Minor.
210	Machine Control Upgrades for an item without a characteristic classified as Safety, Special, Critical, Major or Minor.
211	Replacing an existing piece of machinery or test equipment for an item with a characteristic classified as Safety, Special, Critical, Major or Minor.
212	Replacing an existing piece of machinery or test equipment for an item without a characteristic classified as Safety, Special, Critical, Major or Minor.
213	Adding a new machine for an item with a characteristic classified as Safety, Special, Critical, Major or Minor.
214	Adding a new machine for an item without a characteristic classified as Safety, Special, Critical, Major or Minor.
215	Machine Modification for an item with a characteristic classified as Safety, Special, Critical, Major or Minor.
216	Machine Modification for an item without a characteristic classified as Safety, Special, Critical, Major or Minor.
217	Changing the sequence of the manufacturing process that affects explosives or for an item with a characteristic classified as Safety, Special, Critical, Major or Minor.
218	Changing the sequence of the manufacturing process for an item without a characteristic classified as Safety, Special, Critical, Major or Minor.
219	Moving test equipment/machines within a facility for an item with a characteristic classified as Safety, Special, Critical, Major or Minor.
220	Moving test equipment/machines within a facility for an item without a characteristic classified as Safety, Special, Critical, Major or Minor.
300	**Changes to Manufacturing Processes**
301	Major change in manufacturing process (i.e. Casting instead of forging or hog-out)
302	Minor change in manufacturing process (i.e. Heating/Cooling durations, new rework processes, new lubricant material, in-process dimensional range) that affects explosives or for an item with a characteristic classified as Safety, Special, Critical, Major or Minor.
303	Minor change in manufacturing process (i.e. Heating/Cooling durations, new rework processes, new lubricant material, in-process dimensional range) for an item without a characteristic classified as Safety, Special, Critical, Major or Minor.
304	Replacement or major repairs to a casting and press molds for an item with a characteristic classified as Safety, Special, Critical, Major or Minor.
305	Replacement or major repairs to a casting and press molds for an item without a characteristic classified as Safety, Special, Critical, Major or Minor.
306	Minor changes to casting and press molds to maintain parting lines and reduce flashing for an item with a characteristic classified as Safety, Special, Critical, Major or Minor.
307	Minor changes to casting and press molds to maintain parting lines and reduce flashing for an item without a characteristic classified as Safety, Special, Critical, Major or Minor.
308	Preventative Maintenance or replacement of normal machining wear items (i.e. saw blades, cutting tools, etc.)
309	Performing normal machine offsets due to tool wear
310	Minor changes to work instructions that have no effect on the process (i.e. clarification)
400	**Changes to Material or Supply of Material**
401	Change in supplier of explosives or end item part for an item with a characteristic classified as Safety, Special, Critical, Major or Minor.
402	Change in supplier of end item part for an item without a characteristic classified as Safety, Special, Critical, Major or Minor.
403	Change in supplier of the material for an item with a characteristic classified as Safety, Special, Critical, Major or Minor.
404	Change in supplier of the material for an item without a characteristic classified as Safety, Special, Critical, Major or Minor.
405	Change in supplier for component within an end item part with a characteristic classified as Safety, Special, Critical, Major or Minor.

406	Change in supplier for component within an end item part without a characteristic classified as Safety, Special, Critical, Major or Minor.
407	Change from one qualified test laboratory to another qualified test laboratory for an item with a characteristic classified as Safety, Special, Critical, Major or Minor.
408	Change from one qualified test laboratory to another qualified test laboratory for an item without a characteristic classified as Safety, Special, Critical, Major or Minor.
500	**Plating and Coating**
501	New Supplier or Change in Supplier for **Plating or Coating**
502	Changes in the supply of chemicals used for cleaning or processing during **Plating or Coating**
503	Changes in cleaning, process times, temperatures, chemical concentrations, etc. used during **Plating or Coating**
600	**Changes Not Listed within Attachment 12**

Q629 Process Control Plan (Rev 01/08/18)

A Process Control Plan shall be submitted using the GD-OTS Process Control Plan Template, QS-TP-21.0.3. Control Plans shall cover at a minimum TDP identified Safety, Special, Critical, and Major Characteristics. Control Plans shall be submitted to GD-OTS prior to execution of the Baseline Qualification FAT. Control Plans shall be revision controlled and revised with any approved changes to the qualified baseline. Revised Control Plans shall be submitted to GD-OTS for approval. The template can be obtained on the GD-OTS SharePoint collaboration site.

Q630 Process Failure Modes and Effects Analysis (PFMEA) (Rev 01/08/18)

A PFMEA is required for this part. The PFMEA shall be submitted using the GD-OTS PFMEA Template QS-TP-21.0.2. The PFMEA shall cover at a minimum TDP identified Safety, Special, Critical, and Major Characteristics. The document will analyze all potential modes that could result in production of a nonconformance; it will also include countermeasures to be taken for each failure mode to reduce or prevent occurrence and mistake proofing efforts and methods. The initial PFMEA shall be submitted to GD-OTS prior to execution of the Baseline Qualification FAT. The template can be obtained on the GD-OTS SharePoint collaboration site.

Q631 Source Inspection Verification (Rev 01/08/18)

GD-OTS Source Inspection is required prior to shipment from your plant. Unless otherwise directed by the purchase order, Seller is to schedule GD-OTS Source Inspection a minimum of two (2) working days prior to service need date via the Verify, Inc. web site at https://www.vscnet.com/Suppliers/suppliers.asp.

Q632 Government Source Inspection (Rev 01/08/18)

Unless otherwise directed, Government Source Inspection (GSI) is required prior to shipment from your facility. The Government shall be notified of the availability of parts for inspection a minimum of two (2) workdays in advance of the required inspection date if DCMA is resident at the Seller's facility and seven (7) workdays in advance of the inspection date if DCMA is not resident at the Seller's facility. The Seller shall ensure that objective sign-off approval (written or electronic) is obtained from the government

representative performing the source inspection prior to shipment of the items. Government sign-off approval shall be included in the documentation package that is shipped with the item.

If GD-OTS Source Inspection (Q631) is also required, the Seller shall ensure that objective signoff approval (written or electronic) is obtained from the GD-OTS representative performing the source inspection prior to presenting the items for government source inspection. The Seller is responsible for scheduling the facilities, equipment, inspection articles, prior GD-OTS source inspection, and manpower to be ready for Government inspection.

Q633 Advance Ship Authorization (Rev 09/04/19)

Advance Ship Authorization (ASA) from GD-OTS Quality is required prior to shipment from your plant. Requirements for ASA are contained in the ASA form for the part to be shipped. The ASA form shall be completed for each shipment and submitted to GD-OTS. Upon approval, GD-OTS Quality will return a signed ASA form to the Seller that is to be delivered with the packing slip. The shipment will not be accepted by GD-OTS without the approved ASA form. Note: An approved ASA form does not constitute automatic product acceptance by GD-OTS.

Q634 Ammo Data Card – Warp (Rev 01/08/18)

The Seller shall prepare Ammunition Data Cards for all production lots in accordance with DI-MISC-80043 and MIL-STD-1168 Rev C, by accessing the Worldwide Ammunition Data Repository Program (WARP) which is located on the Army Electronic Product Support (AEPS) website at https://mhpwarp.redstone.army.mil/. Hard copy Ammunition Data Cards provided with lot shipments shall be generated from the WARP program, signed and dated by the Governmental Agency Responsible for Acceptance (GARA). Seller submittals shall consist of a single paper copy of each Ammunition Data Card.

Part numbers requiring Ammunition Data Cards are included in the Purchase Order (PO) or Section E of the Long Term Agreement (LTA). Subsequent modifications will be flowed through modifications to the PO or LTA.

When ballistic tests are required, one hard copy generated from the WARP program, signed and dated by the GARA, shall be sent to the proving ground with sample shipment.

Q635 Lot Report (Delivered with Lot) (Rev 09/04/19)

Seller shall provide the following lot documentation with each shipment (may be delivered via hardcopy with shipment or electronic media to buyer).

1) Seller Certificate of Conformance (CoC)
Seller shall provide a CoC with each lot for the delivered end item. This CoC shall be in the format of GD-OTS CoC template QS-TP-53.0.1. This template as well as a guide to completion of the template (QS-GD-53.0.1) can be found on the SharePoint collaboration site.

2) Sub-tier Supplier Certificate of Conformance (CoC)
A CoC shall be provided by the Seller for each supplier used in the supply chain

The CoC shall list and contain:
-Seller's name and address
-Purchase order (PO) number
-Quantity of shipment
-Drawing number with drawing revision, specification number with revision, and any GD-OTS CN(s)/Government NOR(s) listed in the TDP Status Report
-Seller lot identification (e.g. lot number)
-Material and process lot identification (e.g. material heat number or lot identifier, material finish and treatment lot identifier) representing the materials and processes, including special processes, required by technical documentation.
-The CoC must include printed name, title, and signature of official signing the CoC.
-Statement attesting to compliance with all applicable technical requirements listed in the applicable portion of the Technical Data Package.
- Signature, title, and date of authorized seller quality assurance representative.

For any certifications on which the Seller was not the manufacturer of an item, certifications must be traceable to and contain a copy of a certification from the manufacturer.

3) Materials and Process Lot Certification
Seller shall provide certification documentation and/ or objective evidence, at all levels of the supply chain, for all required materials and processes, as listed in the TDP. The documents should contain an authorized signature and date.

The Material Certification shall list and contain:

-Applicable drawings and specifications with revision.
-Lot test data (e.g. chemical, physical, and mechanical properties) required by drawings or applicable specifications.
-All material and process lot identification shall be listed on the CoC and be traceable to the CoC.

4) Special Process Certification
Seller shall provide a CoC, in compliance with section 1) above for all special processes (e.g. plating, coatings, cleaning, chemical treatments, heat treatment, non-destructive testing) performed in accordance with listed drawings and specifications. Test data and other associated data is not required to be provided with the lot documentation but shall be kept on file for review by GD-OTS upon request.

5) Commercial/COTS Items
Commercial Off the Shelf (COTS) items are those that meet the requirements of the definitions of commercial items and COTS items as defined in FAR 2.101. Suppliers of COTS items are expected to supply a Certificate of Analysis with the first shipment against this contract and a Certificate of Conformance for all subsequent shipments.

A Certificate of Analysis (COA) will contain:
• test/inspection results demonstrating conformance to any requirements in the governing specifications (e.g. chemistry, strength, plating, etc.)
• the revision of the governing specification to which the part conforms
• the purchaser's purchase order number
• quantity and lot number(s) supplied,
• a statement of conformance to the requirements on the purchaser's purchase order signed by an authorized official of the company.

Both Certificates of Analysis and Certificates of Conformance shall be traceable to similar certificates from the original manufacturer.

When the TDP drawing for a commercial/COTS item contains dimensional information, the purchaser of the commercial/COTS item is responsible for the ongoing conformance of the item throughout the life of this contract. The purchaser of the commercial/COTS item shall provide a copy of their receiving inspection documentation for the part number demonstrating conformance to the dimensional requirements with the first shipment against this contract.

For suppliers to GD-OTS that purchase commercial/COTS items in support of their GD-OTS purchase order, the contents of this section shall be flowed to the commercial/COTS supplier as well as clause Q624 (Lot Numbering – MIL-STD-1168), when required.

Q636 Certificate of Conformance (CoC) (Rev 01/08/18)

Commercial Off the Shelf (COTS) items are those that meet the requirements of the definitions of commercial items and COTS items as defined in FAR 2.101. Suppliers of COTS items are expected to supply a Certificate of Analysis with the first shipment against this contract and a Certificate of Conformance for all subsequent shipments.

A Certificate of Analysis (COA) will contain:
• Test/inspection results demonstrating conformance to any requirements in the governing specifications (e.g. chemistry, strength, plating, etc.)
• The revision of the governing specification to which the part conforms
• The purchaser's purchase order number
• Quantity and lot number(s) supplied
• A statement of conformance to the requirements on the purchaser's purchase order signed by an authorized official of the company.

A Certificate of Conformance (COC) shall be in the format of GD-OTS CoC template QS-TP-53.0.1 with the exception of the Last Manufacture Date requirement which shall be marked N/A. This template, as well as a guide to completion of the template (QS-GD-53.0.1), can be found on the SharePoint collaboration site.

Both Certificates of Analysis and Certificates of Conformance shall be traceable to similar certificates from the original manufacturer and a copy of the original manufacturer's certification shall be attached to the CoA or CoC.

Q637 Lot Report (Sub-tier report retained by Seller) (Rev 01/08/18)

Seller shall provide the following lot documentation with each shipment (may be delivered via hardcopy with shipment or electronic media to buyer).

1) Seller Certificate of Conformance (CoC)
Seller shall provide a CoC with each lot for the delivered end item. This CoC shall be in the format of GD-OTS CoC template QS-TP-53.0.1. This template as well as a guide to completion of the template (QS-GD-53.0.1) can be found on the SharePoint collaboration site.

Seller shall retain the following lot documentation and be able to provide copies to GD-OTS within 24 hours upon request.

1) Sub-tier Supplier Certificate of Conformance (CoC)
A CoC shall be provided by the Seller for each supplier used in the supply chain

The CoC shall list and contain:
-Sellers name and address
-Purchase order (PO) number
-Quantity of shipment
-Drawing number with drawing revision, specification number with revision, and any GD-OTS CN(s) listed in the TDP Status Report
-Seller lot identification (e.g. lot number)
-Material and process lot identification (e.g. material heat number or lot identifier, material finish and treatment lot identifier) representing the all materials and processes, including special processes, required by technical documentation.
-The CoC must include printed name, title, and signature of official signing the CoC.
-Statement attesting to compliance with all applicable technical requirements listed in the applicable portion of the Technical Data Package.
- Signature, title, and date of authorized seller quality assurance representative.

For any certifications on which the Seller was not the manufacturer of an item, certifications must be traceable to and contain a copy of a certification from the manufacturer.

2) Materials and Process Lot Certification
Seller shall provide certification documentation and/ or objective evidence, at all levels of the supply chain, for all required materials and processes, as listed in the TDP Status Report documentation, used in producing the item. The documents should contain an authorized signature and date.

The Material Certification shall list and contain:

-Applicable drawings and specification and the drawing / specification revision.

-Lot test data (e.g. chemical, physical, and mechanical properties) required by drawings or applicable specifications.
-All material and process lot identification shall be listed on the CoC and be traceable to the CoC

3) Special Process Certification
Seller shall provide a CoC, in compliance with section 1) above for all special processes (e.g. plating, coatings, cleaning, chemical treatments, heat treatment, non-destructive testing) performed in accordance with listed drawings and specifications. Test data and other associated data is not required to be provided with the lot documentation but shall be kept on file for review by GD-OTS upon request.

4) Commercial/COTS Items
Commercial Off the Shelf (COTS) items are those that meet the requirements of the definitions of commercial items and COTS items as defined in FAR 2.101. Suppliers of COTS items are expected to supply a Certificate of Analysis with the first shipment against this contract and a Certificate of Conformance for all subsequent shipments.

A Certificate of Analysis (COA) will contain:
• test/inspection results demonstrating conformance to any requirements in the governing specifications (e.g. chemistry, strength, plating, etc.)
• the revision of the governing specification to which the part conforms
• the purchaser's purchase order number
• quantity and lot number(s) supplied
• a statement of conformance to the requirements on the purchaser's purchase order signed by an authorized official of the company.

Both Certificates of Analysis and Certificates of Conformance shall be traceable to similar certificates from the original manufacturer.

When the TDP drawing for a commercial/COTS item contains dimensional information, the purchaser of the commercial/COTS item is responsible for the ongoing conformance of the item throughout the life of this contract. The purchaser of the commercial/COTS item shall provide a copy of their receiving inspection documentation for the part number demonstrating conformance to the dimensional requirements with the first shipment against this contract.

For suppliers to GD-OTS that purchase commercial/COTS items in support of their GD-OTS purchase order, the contents of this section shall be flowed to the commercial/COTS supplier as well as clause Q624 (Lot Numbering – MIL-STD-1168), when required.

Q638 Objective Evidence (Rev 12/31/14)

Seller shall supply with each lot objective evidence of successful completion of all TDP required sample inspections. Objective evidence shall include at a minimum, the part number, lot quantity, characteristics inspected, sampling system and inspection level used for each characteristic, required sample size, actual sample size, acceptance number, quantity accepted, quantity rejected, acceptance or failure of the inspection, date of inspection and name or identification of the inspecting person.

Q639 Right of Access (Rev 09/04/18)

Seller shall grant GD-OTS, GD-OTS customer/government representatives and regulatory authorities right of access to all applicable records and areas of all facilities, at any level of the supply chain, involved with the products and/or services delivered under this purchase order.

Q640 Inspection and Test Measurement Guard Banding (Rev 01/08/18)

When the measurement accuracy of the inspection/test measurement system used to inspect/test characteristics identified as Safety, Special, Critical, Major, or Minor exceeds 10% of the tolerance, the inspection tolerance shall be guard banded to assure acceptance of only conforming product unless otherwise approved by GD-OTS. The Guard Banded tolerance shall have its lower limit increased and upper limit decreased by the measurement accuracy. If the measurement accuracy exceeds 20% of the tolerance, GD-OTS approval is required before the Inspection/Test Equipment may be used. (Measurement accuracy is defined as the 95% confidence interval of the measurement uncertainty and is determined by the manufacturer's statement of accuracy or result of a Gage Repeatability and Reproducibility study).

In addition, the measurement accuracy of the Inspection/Test equipment shall be at least one additional significant digit to the right of the specification (for example if the specification for a characteristic is .315", the accuracy of the Inspection/Test equipment must be +/-.000X" or better where X can be any digit between 1 and 9.) Note that this requirement applies to the feature being measured and is independent of the tolerance band. If this requirement is not met, GD-OTS approval is required before the Inspection/Test equipment may be used and if approved, Guard Banding as noted above may be required to be applied; that is, the Guard Banded tolerance shall have its lower limit increased and upper limit decreased by the measurement accuracy.

Q641 Lot Report (Delivered with Lot) (Rev 09/04/19)

Seller shall provide the following lot documentation with each shipment (may be delivered via hardcopy with shipment or electronic media to buyer).

1) Seller Certificate of Conformance (CoC)

Seller shall provide a CoC with each lot for the delivered end item. This CoC shall be in the format of GD-OTS CoC template QS-TP-53.0.1. This template as well as a guide to completion of the template (QS-GD-53.0.1) can be found on the SharePoint collaboration site.

2) Sub-tier Supplier Certificate of Conformance (CoC)

A CoC shall be provided by the Seller for each supplier used in the supply chain

The CoC shall list and contain:

-Sellers name and address
-Purchase order (PO) number

-Quantity of shipment
-Drawing number with drawing revision, specification number with revision, and any GD-OTS CN(s) /Government NOR(s) listed in the TDP Status Report
-Seller lot identification (e.g. lot number)
-Material and process lot identification (e.g. material heat number or lot identifier, material finish and treatment lot identifier) representing the materials and processes, including special processes, required by technical documentation.
-The CoC must include printed name, title, and signature of official signing the CoC.
-Statement attesting to compliance with all applicable technical requirements listed in the applicable portion of the Technical Data Package.
- Signature, title, and date of authorized seller quality assurance representative.
For any certifications on which the Seller was not the manufacturer of an item, certifications must be traceable to and contain a copy of a certification from the manufacturer.

3) Materials and Process Lot Certification

Seller shall provide certification documentation and/ or objective evidence, at all levels of the supply chain, for all required materials and processes, as listed in the TDP Status Report documentation, used in producing the item. The documents should contain an authorized signature and date.

The Material certification shall list and contain:

-Applicable drawings and specification with revision.
-Lot test data (e.g. chemical, physical, and mechanical properties) required by drawings or applicable specifications.
-All material and process lot identification shall be listed on the CoC and be traceable to the CoC

4) Special Process Certification

Seller shall provide a CoC, in compliance with section 1) above for all special processes (e.g. plating, coatings, cleaning, chemical treatments, heat treatment, non-destructive testing) performed in accordance with listed drawings and specifications. Test data and other associated data is not required to be provided with the lot documentation but shall be kept on file for review by GD-OTS upon request.

Q642 Corrosion Prevention and Control (Rev 6/15/15)

Precautions shall be taken during manufacturing operations to maintain the integrity of corrosion prevention requirements and to prevent the introduction of corrosion or corrosive elements. All parts and assemblies shall be given adequate protection to prevent corrosion and physical damage during temporary or long term storage and shipment.

Q643 Statistical Process Control Plan (Rev 01/08/18)

Seller shall submit a Statistical Process Control Program Plan for GD-OTS approval, in Seller format, using the GD-OTS SPC Program Template QS-TP-21.0.4and ISO 11462-1 as guidance. The Guide can be found

on the entry page for the GD-OTS SharePoint collaboration site. The SPC Program Plan shall be submitted within ninety (90) calendar days of initial Master Subcontract or Purchase Order issue, whichever is earlier. Seller shall maintain SPC data and provide this data to GD-OTS or its representatives on request for review at the Seller's facility.

Q644 Tooling and Gaging Requirements (Rev 05/09/16)

When billed to GD-OTS, Seller shall provide the following gage/tool documentation as evidence that the tooling is complete (may be delivered via hardcopy or electronic media to buyer):

- Objective evidence of requirements conformance for each gage/tool. (e.g. Inspection/CMM report, Calibration report, material certification, etc.)
- Completed Special Tooling Report (GD-OTS Form#: SCM-FRM-8.11.0.2, supplied with Purchase Order)
- Picture(s) of each gage/tool purchased
- Picture(s) of each gage/tool marking

Q645 Internal and External Quality Audits Alternate (Rev 01/08/18)

Seller shall conduct internal and external audits. Quality auditing shall apply to all operations and processes, including activities ranging from purchasing to materials processing at component vendors, through end item assembly, packaging, and testing.

GD-OTS and/or its Customer shall be allowed to attend and provide input at external audits conducted by Seller. Seller shall notify GD-OTS by email at least thirty (30) calendar days in advance of each quality audit planned to be conducted by the Seller.

Seller shall document the conducting and results of all audits on an internal report which shall be maintained on file. Records of audits shall be provided to GD-OTS or its Customer for review on an as requested basis.

The Seller shall accommodate up to two GD-OTS audits per year. One of these audits, at GD-OTS election may be at any of Seller's subcontractors at any tier. Additional audits shall be deemed a "change". These audits may include system, process, and/or product audit at the subcontractor's facility. These audits may include Government representatives depending on the complexity of the product, the size of the facility, and the content of the audit. The activity may require as many as three (3) days to complete. A minimum of twenty (20) calendar days advance notification will be given to the Seller and GD-OTS and Seller will negotiate a mutually agreeable schedule. Audit follow-up visits will be scheduled and conducted if required. Spontaneous audits resulting from cause and corrective action type activity shall not be counted towards the two audits per yearly criteria.

Q646 Statistical Process Control Plan Alternate (Rev 11/10/15)

Seller shall utilize its existing Statistical Process Control Plan. Seller shall maintain SPC data and provide this data to GD-OTS or its representatives on request for review at the Seller's facility.

Q647 – Shelf Life – 66% (Rev 5/9/16)

Age controlled material must have 66% of its shelf life remaining at the time of shipment. Each shipment is to be identified with the date of manufacture/date of expiration. The container(s) shall not be damaged.

Q648 Commercial Baseline Qualification First Article Test (Rev 09/04/19)

The Seller shall perform Baseline Qualification First Article Testing (FAT) to ensure that the systems, subsystem, component, and material comply with all TDP requirements. The Baseline Qualification FAT shall include verification of all TDP characteristics and tests as documented in the prints, specifications, etc.

I. Requirements Prior to Execution of the Baseline FAT

1. Baseline FAT Plan

a. GD-OTS will author the Baseline Qualification FAT Plan and will seek input from the supplier as needed to ensure accuracy and adequacy of the plan. Suppliers are required to comply with all aspects of the approved plan.

i. The Plan will cover all characteristics of the TDP, prints, specifications, etc. to the extent that a sub tier supplier generates characteristics referenced by an applicable print or specification, these characteristics shall be incorporated in the plan. Since the Baseline Qualification FAT Plan may be extensive and extend to sub tier supplier's facilities, the Seller shall provide GD-OTS an anticipated timeline for execution of the various pieces of the FAT.

The use of standard rework procedures shall be documented and included in the Baseline Qualification Plan and validated as part of the execution. The Seller shall work with GD-OTS in planning the content of the Baseline Qualification FAT Plan to satisfy the needs of the Seller.

ii. GD-OTS will notify the Seller when the plan has been approved for execution and coordinate schedule with the Seller.

iii. GD-OTS will generate and provide to the Seller data sheets in accordance with the requirements of SAE Aerospace Standard AS9102, using Form 1: Part Number Accountability; Form 2: Product Accountability – Raw Material, Specifications, and Special Process(es), Functional Testing; and Form 3: Characteristic Accountability, Verification and Compatibility Evaluation. The Seller shall supply information regarding the gaging/test equipment to be used to accomplish each required inspection. The Seller's responsibility shall be to enter the results of each inspection/test on the appropriate AS9102 forms, provide required material and process certifications, etc. at the time of the execution of the Baseline Qualification FAT.

iv. Sample sizes for validation shall be as noted on the AS9102 data sheets.

v. A series of AS9102 data sheets will be provided for each end item deliverable to GD-OTS, applicable sub-assemblies, sub-components and raw materials.

b. GD-OTS will provide to the Seller a "ballooned" print numbering each characteristic, dimension, and note.

c. The Seller shall provide a Baseline Process Flow Map for each end item deliverable to GD-OTS. The baseline map shall include process step description, equipment used at that process step (including make, model, and serial number), the name, number, and revision level of any process work instructions applicable to that operation. The map shall also include a description of all inspection and test equipment used at that process step; indicate if Statistical Process Control (SPC) is used at that process step, any standard equipment adjustments and whether there are any approved rework processes. Baseline Process Flow Maps shall also be supplied for sub tier suppliers that supply components that are detailed in a print as well as for suppliers of Special Processes (e.g. painting, plating, chromate finishing, etc.). COTS items, raw materials and distributor supplied items are exempted from the Baseline Process Flow Map requirement. The Baseline Process Flow Map shall be submitted in the format of the GD-OTS Process Flow Template, QS-TP-21.0.1. The Baseline Process Flow Map shall be provided to GD-OTS prior to the execution of the Baseline Qualification FAT. The template can be obtained on the GD-OTS SharePoint collaboration site. Seller format is acceptable if approved by GD-OTS.

d. Requirements for Inspection and Test Equipment Validation covered in Clause Q618 shall be completed prior to execution of the Baseline Qualification FAT.

II. Baseline Qualification FAT Execution

1. Once the Baseline FAT Plan has been approved, provision shall be made for GD-OTS representatives to witness all or any portion of the execution of the Baseline Qualification FAT at their discretion. Seller shall notify GD-OTS in writing what date they will be ready to begin execution of the Baseline Qualification FAT a minimum of thirty-five (35) calendar days in advance of that date to allow for required notification to the customer.

2. Samples for the Baseline Qualification FAT shall be manufactured using the process and equipment that will be used for production and shall be selected from the first production lot. Where MIL-STD-1168 lot numbering is required, lots shall be identified as a First Article Lot in accordance with MIL-STD-1168. The size of this lot shall be approved by GD-OTS for items at the deliverable part number level. First Article lots from sub-tier suppliers will be expected to be of sufficient size to support the First Article lot at the deliverable part number level.

3. Testing and Inspection shall be performed at the facility at which the inspection and test equipment resides.

III. After Baseline Qualification FAT Execution

1. Upon successful execution of the Plan the supplier shall provide GD-OTS with all test reports, certifications, and data sheets completed as part of the execution of the Baseline Qualification

FAT. This information shall be provided to GD-OTS within seven (7) calendar days of the completion of the execution of the Baseline Qualification FAT.

2. Production beyond the first article lot may not begin until contractually directed by GD-OTS.

3. GD-OTS will prepare the Baseline Qualification FAT Report. The Seller shall provide assistance to GD-OTS as needed to support any clarifications or additional information required.

4. Residual components of the Baseline Qualification Lot shall be considered sellable product provided they meet all TDP requirements, acceptance inspection AQL, and LAT requirements.

Changes to the Qualified Baseline is a formal time consuming process that requires GD-OTS approval. The proposed changes should be planned months in advance of required implementation. The table below contains a listing of changes that require notification and approval. Seller shall request and receive written GD-OTS approval prior to making any changes that deviate from the qualified baseline (either that qualified in the Baseline Qualification FAT or by subsequent qualified modification). This change requirement shall be applicable to the lowest level of supplier in the supply chain at which the characteristic is generated. The table below contains a listing of changes that require notification and approval. Seller must make a formal request for any such change. Seller's request for such a change shall be formally submitted to the GD-OTS Buyer. Note: the manufacturer of a Commercial/COTS item used for Baseline Qualification is considered part of the Qualified Baseline and subject to these requirements should there be a need to change the manufacturer. Commercial/COTS items may be purchased from any distributor as long as the manufacturer is the manufacturer established as part of the Qualified Baseline. (Commercial/COTS items are as defined in FAR 2.101)

GD-OTS will determine the level of verification required for every change. Depending on the level of change, No Validation, Internal Validation, First Piece Inspection (FPI), a First Article Test (FAT), a Tailored FAT, or a Requalification may be required. The Seller shall not implement such changes, or commence validation activities without prior review and approval of GD-OTS. Once the appropriate level of validation has been agreed upon, the Seller shall proceed with validation in accordance with the following requirements. Validation activities shall be performed with the facilities, production processes, methods, materials, personnel and equipment that will be used for production.

FAT/TFAT – Seller submits Plan using the GD-OTS FAT Plan Template, QS-TP-10.6.1. Execution of the validation shall not begin until the Plan has been approved by GD-OTS. If a Plan is rejected, Seller has fifteen (15) calendar days to submit a revision. Upon approval of a Plan, Seller must give a minimum of thirty-five (35) calendar days' notice of the planned execution date. Once the Plan has been executed, seller has fifteen (15) calendar days to submit a validation Report using the GD-OTS FAT Report Template, QS-TP-10.6.2. Should a report be rejected, Seller has fifteen (15) calendar days to submit a revision. The template can be obtained on the GD-OTS

SharePoint collaboration site. Production with incorporation of the change shall not begin without written authorization from GD-OTS.

FPI – Seller submits plan using the GD-OTS FPI Plan Template, QS-TP-10.6.3. Execution of the validation shall not begin until the Plan has been approved by GD-OTS. If a plan is rejected, Seller has fifteen (15) calendar days to submit a revision. Upon approval of a plan, Seller must give a minimum of thirty-five (35) calendar day notice of the planned execution date. Once the plan has been executed, seller has fifteen (15) calendar days to submit a validation report using the GD-OTS FPI Report Template, QS-TP-10.6.4. Should a report be rejected, Seller has fifteen (15) calendar days to submit a revision. The template can be obtained on the GD-OTS SharePoint collaboration site. Production with incorporation of the change shall not begin without written authorization from GD-OTS.

Internal Validation is performed at the cognizance of the Seller. Seller shall retain records of the results of the internal validation and have them available for review upon request.

Validation Not Required - Notification is not required for Attachment 0012 Ref#s 308 and 309 however, these activities shall be documented internally by the subcontractor making the change. A PCR notification and GD-OTS approval is required for Ref# 310.

Inspection/Test Equipment Validation – Inspection and Test Equipment Validation shall be completed in accordance with the requirements of Q618.

Seller shall flow the substance of this clause to its subcontractors, including this sentence, changing the relationship of the parties as appropriate to preserve the intent of the words.

Attachment 0012
PROCESS CHANGES
W31P4Q-14-C-0154

REF#	Description of Changes
100	**Design Changes**
101	Design changes or changes resulting in change to system MOD designation
102	Any change impacting safety or system performance requirements
103	Changes that affect items requiring outside agency involvement (i.e. Navy Weapon System Explosive Safety Review Board (WSESRB), Army Fuze Board, etc.)
104	Changes that impact either system or component level interface requirements
105	Changes resulting from unexpected events such as part obsolescence
106	Use of a lower reliability part
107	Performance data for the new or redesigned item not sufficient to demonstrate that it will perform to the same extent as the item it is replacing
200	**Changes to Manufacturing Facility**
201	Manufacturing plant location change for explosives or an item with a characteristic classified as Safety, Special, Critical, Major or Minor.
202	Manufacturing plant location change for an item without a characteristic classified as Safety, Special, Critical, Major or Minor.
203	Out of production over twelve months for explosives or an item with a characteristic classified as Safety, Special, Critical, Major or Minor.
204	Out of production over twelve months for an item without a characteristic classified as Safety, Special, Critical, Major or Minor.

205	Addition of a production line for explosives or an item with a characteristic classified as Safety, Special, Critical, Major or Minor.
206	Addition of a production line for an item without a characteristic classified as Safety, Special, Critical, Major or Minor.
207	Dismantling and restarting the production line for explosives or an item with a characteristic classified as Safety, Special, Critical, Major or Minor.
208	Dismantling and restarting the production line for an item without a characteristic classified as Safety, Special, Critical, Major or Minor.
209	Machine Control Upgrades for an item with a characteristic classified as Safety, Special, Critical, Major or Minor.
210	Machine Control Upgrades for an item without a characteristic classified as Safety, Special, Critical, Major or Minor.
211	Replacing an existing piece of machinery or test equipment for an item with a characteristic classified as Safety, Special, Critical, Major or Minor.
212	Replacing an existing piece of machinery or test equipment for an item without a characteristic classified as Safety, Special, Critical, Major or Minor.
213	Adding a new machine for an item with a characteristic classified as Safety, Special, Critical, Major or Minor.
214	Adding a new machine for an item without a characteristic classified as Safety, Special, Critical, Major or Minor.
215	Machine Modification for an item with a characteristic classified as Safety, Special, Critical, Major or Minor.
216	Machine Modification for an item without a characteristic classified as Safety, Special, Critical, Major or Minor.
217	Changing the sequence of the manufacturing process that affects explosives or for an item with a characteristic classified as Safety, Special, Critical, Major or Minor.
218	Changing the sequence of the manufacturing process for an item without a characteristic classified as Safety, Special, Critical, Major or Minor.
219	Moving test equipment/machines within a facility for an item with a characteristic classified as Safety, Special, Critical, Major or Minor.
220	Moving test equipment/machines within a facility for an item without a characteristic classified as Safety, Special, Critical, Major or Minor.
300	**Changes to Manufacturing Processes**
301	Major change in manufacturing process (i.e. Casting instead of forging or hog-out)
302	Minor change in manufacturing process (i.e. Heating/Cooling durations, new rework processes, new lubricant material, in-process dimensional range) that affects explosives or for an item with a characteristic classified as Safety, Special, Critical, Major or Minor.
303	Minor change in manufacturing process (i.e. Heating/Cooling durations, new rework processes, new lubricant material, in-process dimensional range) for an item without a characteristic classified as Safety, Special, Critical, Major or Minor.
304	Replacement or major repairs to a casting and press molds for an item with a characteristic classified as Safety, Special, Critical, Major or Minor.
305	Replacement or major repairs to a casting and press molds for an item without a characteristic classified as Safety, Special, Critical, Major or Minor.
306	Minor changes to casting and press molds to maintain parting lines and reduce flashing for an item with a characteristic classified as Safety, Special, Critical, Major or Minor.
307	Minor changes to casting and press molds to maintain parting lines and reduce flashing for an item without a characteristic classified as Safety, Special, Critical, Major or Minor.
308	Preventative Maintenance or replacement of normal machining wear items (i.e. saw blades, cutting tools, etc.)
309	Performing normal machine offsets due to tool wear
310	Minor changes to work instructions that have no effect on the process (i.e. clarification)
400	**Changes to Material or Supply of Material**
401	Change in supplier of explosives or end item part for an item with a characteristic classified as Safety, Special, Critical, Major or Minor.

402	Change in supplier of end item part for an item without a characteristic classified as Safety, Special, Critical, Major or Minor.
403	Change in supplier of the material for an item with a characteristic classified as Safety, Special, Critical, Major or Minor.
404	Change in supplier of the material for an item without a characteristic classified as Safety, Special, Critical, Major or Minor.
405	Change in supplier for component within an end item part with a characteristic classified as Safety, Special, Critical, Major or Minor.
406	Change in supplier for component within an end item part without a characteristic classified as Safety, Special, Critical, Major or Minor.
407	Change from one qualified test laboratory to another qualified test laboratory for an item with a characteristic classified as Safety, Special, Critical, Major or Minor.
408	Change from one qualified test laboratory to another qualified test laboratory for an item without a characteristic classified as Safety, Special, Critical, Major or Minor.
500	**Plating and Coating**
501	New Supplier or Change in Supplier for **Plating or Coating**
502	Changes in the supply of chemicals used for cleaning or processing during **Plating or Coating**
503	Changes in cleaning, process times, temperatures, chemical concentrations, etc. used during **Plating or Coating**
600	**Changes Not Listed within Attachment 12**

Q649 Commercial Item Ammo Data Card (Rev 01/08/18)

Seller shall prepare Ammunition Data Cards for all production lots of items in accordance with DI-MISC-80043 and MIL-STD-1168. Seller submittals shall consist of a single paper copy of each Ammunition Data Card.

Part numbers requiring Ammunition Data Cards are included in the Purchase Order (PO) or Section E of the Long Term Agreement (LTA). Subsequent modifications will be flowed through modifications to the PO or LTA.

Q650 – Key Performance Data (Rev 01/08/18)

Seller shall provide required Key Performance Data on a quarterly basis. Required data will include some or all of the following:

- On-time delivery of top 5 sub-tier suppliers
- Receiving inspection yield of special processes (e.g. Plating, Painting, etc.)
- Quality rating for top 5 sub-tier suppliers.

The data shall be provided by the 15th of the month after the end of each quarter (i.e. January, April, July, and October). The data provided will be reviewed and tracked with agreed upon goals.

Q651 – Partial Shipments Not Allowed – (Rev 01/08/18)

Partial lot shipments are not allowed for this item without written pre-approval from GD-OTS. The full lot quantity produced must be delivered in one shipment.

Revision 21 – Hydra-70 FY14-18 Contract Quality Clauses
QS-AP-52.0.1 09/04/19

Q652 – Foreign Object Debris (FOD) – (Rev 09/04/19)

Seller shall make provisions to prevent, detect, and remove foreign objects from finished product for this purchase order.

Changes Log Rev 20 to Rev 21

1. Q602 – Added missing word (determine) in Para 1, second sentence.
2. Q617 – Removed specific reference to FSAR & CAP approval as part of GD-OTS's approval. (P00133)
3. Q618 – Corrected typo in GD-OTS document number.
4. Q620 – Corrected typo and added allowance for seller format for process maps, with approval.
5. Q627 – Clarified/reworded definition of a critical defect escape. (P00133).
6. Q628 – Added paragraph for 'Validation Not Required'.
7. Q633 – Capitalized 'Quality'.
8. Q635 – Added reference to Government NOR(s) and removed duplicate wording.
9. Q639 – Removed word 'authorized'.
10. Q641 – Added reference to Government NOR(s) and removed duplicate wording.
11. Q648 – Added paragraph for 'Validation Not Required'.
12. Q652 – New clause for Foreign Object Debris (FOD).