

1. OBJECT  <p style="text-align: center;"><b>QUALITY ASSURANCE REQUIREMENTS FOR SELLER</b></p>	2. NUMBER <p style="text-align: center;"><b>QUA-16G05</b></p> <hr/> 3. DEPARTMENT <p style="text-align: center;"><b>SELLER QUALITY</b></p>
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**1. OBJECTIVES**

This document ensures compliance of the Customer’s quality requirements and General Dynamics-OTS Canada specific quality requirements to its sellers.

This document becomes a contractual document when referred to in a Purchase Order for a Product or when referred in any other documents provided by General Dynamics-OTS Canada.

Additional information and other documents referred to in this document are available upon request to procurement’s team or with a quality representative.

**2. SCOPE**

The requirements of this document shall apply to all General Dynamics-OTS Canada sellers that provide military products for incorporation into our military and civil programs.

**3. APPROBATION**

Signature: _____ Title: Quality Assurance Manager	Signature: _____ Title: Director Purchasing and Planning	
		Émetteur: _____ Title: Quality Assurance manager
		Autorisation: _____ Title: Quality Assurance Manager

5. REVISION  <p style="text-align: center;"><b>0</b></p>	6. PAGE  <p style="text-align: center;"><b>Page 1 sur 21</b></p>
--	--

1. OBJECT  <b>QUALITY ASSURANCE REQUIREMENTS FOR SELLER</b>	2. NUMBER  <b>QUA-16G05</b>
	3. DEPARTMENT  SELLER QUALITY

**4. DEFINITION**

AAIE	Automated Acceptance Inspection Equipment
AIE	Acceptance Inspection Equipment
CCCP	Critical Characteristic Control Plan
CPOA	Critical Plan Of Action
FAAT	First Article Acceptance Test
ITP	Inspection Test Plan
PCA	Physical Configuration Audit
SPC	Statistical Process Control
TDS	Technical Data Sheet
TDL	Technical Data List
IAW	In accordance with
FAIR	First Article Inspection Report
OCM	Original Component Manufacturer
OEM	Original Equipment Manufacturer
NOR	Notice Of Revision
ECP	Engineering Change Process
RFV	Request For Variation
CofC	Certificate Of Conformance
TDP	Technical Data Package
QAP	Quality Assurance Provision
ADC	Ammunition Data Card
CMTR	Certified Material Test Reports
MRB	Material Review Board
NDT	Non Destructive Test

**5. SELLER RESPONSABILITIES**

The seller is responsible for manufacturing and delivering products in accordance with the General Dynamics-OTS Canada purchase order. The seller shall produce products in accordance with all requirements listed on the purchase order but not limited to: drawings, specification, quality requirements. He is also responsible to develop and define the manufacturing process and tooling used to produce, inspect and deliver quantities of products required.

It is the Seller's responsibility to ensure they are working to the latest revision of all documentation used for manufacturing products.

5. REVISION  <b>0</b>	6. PAGE  <b>Page 2 sur 21</b>
-----------------------------	-------------------------------------

1. OBJECT  <b>QUALITY ASSURANCE REQUIREMENTS FOR SELLER</b>	2. NUMBER  <b>QUA-16G05</b>
	3. DEPARTMENT  SELLER QUALITY

Submitting the required documentation to General Dynamics-OTS Canada does not relieve the Seller of its responsibility to comply with the drawings and specifications of the Contract.

**6. RIGHT OF ACCESS**

The Buyer, Buyer’s Customer, and/or the Government shall have the right of access to the Seller’s facilities for the purpose of inspection or verification of materials, processes, procedures, tooling, and equipment during performance of the contract or Purchase Order.

**7. QUALITY SYSTEM**

Quality System Compliant to ISO-9001: The Seller shall maintain a Quality Management System that is compliant to ISO-9001 (latest revision). The Seller’s Quality Management System shall be subject to review and/or audit for compliance by the GD-OTS Buyer or other designated representative. The seller is responsible for performing or ensuring all inspections, tests and calibration necessary to substantiate that the goods or services furnished conform to contract requirements. Records of conformance shall be maintained on file at seller’s facility and upon request by Buyer these records will be made available or provided for review by Buyer. Seller’s facilities and quality system are subject to Buyer’s review. The seller shall take prompt action to correct conditions that have or could result in goods or services that do not conform to contractual requirements.

**8. DOCUMENTATION**

**8.1 Communication Process**

All communications between the Seller and General Dynamics-OTS Canada shall be coordinated through General Dynamics-OTS Canada’s Buyer responsible for the purchase order. General Dynamics-OTS Canada’s Buyer may request that any communications be provided in English.

All Documentation and records shall be available when required, in English.

**8.2 Production Documentation Requirements**

The seller shall submit in accordance with quality requirement prior production the completed inspection check list form# QUA-16F20 with all supporting documentation such as but not limited to: Inspection Test Plan (ITP), AIE list, SPC plan, CCCP, CPOA

5. REVISION  <b>0</b>	6. PAGE  <b>Page 3 sur 21</b>
-----------------------------	-------------------------------------

1. OBJECT  <p style="text-align: center;"><b>QUALITY ASSURANCE REQUIREMENTS FOR SELLER</b></p>	2. NUMBER <p style="text-align: center;"><b>QUA-16G05</b></p> <hr/> 3. DEPARTMENT <p style="text-align: center;">SELLER QUALITY</p>
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for review and approval by General Dynamics-OTS Canada quality assurance department.

The seller shall not start production prior to reception of approval from General Dynamics-OTS Canada. Any deviation request for production shall be submitted to the buyer and shall be granted prior to production. Any production started before approval will be at seller's risk.

During the term of the Contract, the Seller must update these documents and receive approval from General Dynamics-OTS Canada when required.

**8.3 Seller Contact**

Quality and Purchasing contacts must be provided to General Dynamics-OTS Canada prior performing any work per P.O. and must be kept up-to-date at all times. Any changes must be clearly communicated to (SQA/Purchasing) in writing.

**8.4 Quality Code**

Quality requirement levels exist to categorize the various parts purchased according to their complexity and importance to the operation of the final product. The required inspection and documentation are determined according to this classification.

The quality code on form QUA-16F02 QUALITY REQUIREMENT states:

The supporting document required shall be submitted for each quality code: A

- Specific requirements related to each quality code: (B to L)
- The First Article
- Calibration record
- Identification and traceability (CAN and US)
- Repair and rework
- The amendment relating to the agreements of the order
- The inspection
- Audit and/or inspection at source.

If the product is coded A0, the specific requirements are defined by General Dynamics-OTS Canada Quality Department on form QUA-16F02. The quality level is then indicated on the form as well as a reference with the purchase order to these specific requirements. Depending on the applicability, this may be the bid number, contract

5. REVISION  <p style="text-align: center;"><b>0</b></p>	6. PAGE  <p style="text-align: center;"><b>Page 4 sur 21</b></p>
--	--

1. OBJECT  <p style="text-align: center;"><b>QUALITY ASSURANCE REQUIREMENTS FOR SELLER</b></p>	2. NUMBER  <p style="text-align: center;"><b>QUA-16G05</b></p>
	3. DEPARTMENT  <p style="text-align: center;">SELLER QUALITY</p>

number (CO) or code revision level A0. The quality level is present on all purchase orders.

### 8.5 Inspection Test Plan

The seller shall submit an Inspection Test Plan (ITP) to General Dynamics-OTS Canada supply chain representative prior production. The (ITP) shall be submitted with the form # QUA-16F20 and all supporting documentation requested in accordance with the quality level.

The seller shall flow down all requirements to his sub-tier and include names, process name and quality documents with the (ITP) submitted.

The Seller must resubmit his (ITP) to General Dynamics-OTS Canada when any of the following changes occur:

- New part and/or dash number; or
- Changes in processing or material; or
- Change in location of manufacturing; or
- Changes affecting equipment and tooling, die, mold or pattern; or
- Re-sequencing and/or modifications to the operations; or
- New sub-tier Seller.

#### 8.5.1 Inspection Test Plan (ITP) Documentation

The Inspection Test Plan (ITP) shall contain at a minimum, the following;

1. Purchase order number;
2. The applicable drawings, revision levels and ECP number when applicable;
3. Subcontractor general quality specification (including the definition of poor workmanship);
4. The required examination and tests;
5. The lot information, including inspection lot formation and methodology IAW specified specification;
6. A process flow chart which lists the manufacturing operations, inspection stations and acceptance by part number, the part name, operation number and operation nomenclature for components identified by the inspection test plan must be included;
7. A copy of applicable inspection forms shall be included. (Typically, these will be in-process and final inspection sheets, attribute inspection reports, applicable

5. REVISION  <p style="text-align: center;"><b>0</b></p>	6. PAGE  <p style="text-align: center;"><b>Page 5 sur 21</b></p>
--	--

1. OBJECT  <p style="text-align: center;"><b>QUALITY ASSURANCE REQUIREMENTS FOR SELLER</b></p>	2. NUMBER  <p style="text-align: center;"><b>QUA-16G05</b></p>
	3. DEPARTMENT  <p style="text-align: center;">SELLER QUALITY</p>

acceptance test requirement, applicable laboratory test report which are employed for a permanent records of inspection/test results)

Each inspection form shall describe the following:

- a. Sampling plan and level;
  - b. Acceptance quality level;
  - c. Description of the characteristic;
  - d. Appropriate inspection equipment;
  - e. Acceptance criteria
  - f. Any special requirements.
8. Material, finishing, special processes and other specifications listed on drawings shall be listed in the Inspection test plan to the applicable revision level.

Changes to a document approved by General Dynamics-OTS Canada shall not be added nor implemented until re-approval by General Dynamics-OTS Canada, at which time the Seller will receive a new revision of the ITP providing authority to manufacture the product.

**8.6 Delivery Documentation and Certification**

The seller shall submit, for each delivery, the following documentation when required:

1. Certificate of Conformance, as per IAW form# APP-16F09 or equivalent
2. Raw material, forging and casting certifications, complete test reports including mill test run reports and heat lot / batch code numbers (Note: Free Issue material from General Dynamics-OTS Canada must show evidence of Certificate of Conformance and that General Dynamics-OTS Canada inspection has been performed); and
3. Heat treat certification, including process summary (entry and exit time, temperatures and media for each stage, hardness) and test reports; and
4. Special Process certification, including those performed by sub-tier sellers; and
5. Certificate of analysis; and
6. Completed FAIR completed / approved as applicable and
7. Inspection / tests reports; and
8. Deviation / Nonconforming Material Report(s) Form QUA-16G05-F01; and
9. Certificate of conformance from OCM/OEM as applicable

5. REVISION  <p style="text-align: center;"><b>0</b></p>	6. PAGE  <p style="text-align: center;"><b>Page 6 sur 21</b></p>
--	--

1. OBJECT  <b>QUALITY ASSURANCE REQUIREMENTS FOR SELLER</b>	2. NUMBER  <b>QUA-16G05</b>
	3. DEPARTMENT  SELLER QUALITY

**8.7 Certificate of Conformance**

Material supplied per Purchase Order must be accompanied by a certificate of conformance that states conformance to all applicable documentation, engineering drawings, process specifications (to correct revision and any applicable NOR, ECP's, RFV's applicable) and Purchase Order requirements. It is the seller's responsibility to ensure the correct specification revision is met with any amendments. This must be clearly understood by the seller and re-confirmed once P.O. is received during the seller's contract review process to ensure compliance with all requirements.

The certificate of conformance must bear a unique number providing traceability to the sellers' own internal documentation and make reference as per following table listed below:

Note: Seller documentation must clearly indicate when specifications have been superceded and must reference the superceded specification on their C of C.

Table 1: CofC Requirements

Information Required	Raw Materials	Detail Parts	Assemblies	Kits	Special Process
General Dynamics-OTS Canada site name and address.		x	x	x	x
Seller Name and address.	x	x	x	x	x
Certificate number (C of C Number).	x	x	x	x	x
General Dynamics OTS Purchase Order and line item.	x	x	x	x	x
The Customer Contract number (when required on the Purchase Order to the seller)	x	x	x	x	x
General Dynamics-OTS Canada Part number and description	x	x	x	x	x
General Dynamics-OTS Canada revision number as indicated on the TDS form or drawing	x	x	x	x	x
Drawing and/or end user part number	x	x	x	x	x
Drawing and/or end user part number revision	x	x	x	x	x
Lot number		x	x	x	x
Heat and/or batch number	x				
Quantity delivered (accepted and rejected for Special Processes).	x	x	x	x	x
General Dynamics-OTS Canada revision. number as indicated on the TDS form or	x	x	x	x	

5. REVISION  <b>1</b>	6. PAGE  <b>Page 7 sur 21</b>
-----------------------------	-------------------------------------

1. OBJECT  <p style="text-align: center;"><b>QUALITY ASSURANCE REQUIREMENTS FOR SELLER</b></p>	2. NUMBER <p style="text-align: center;"><b>QUA-16G05</b></p> <hr/> 3. DEPARTMENT <p style="text-align: center;"><b>SELLER QUALITY</b></p>
--	--

Customer revision level.					
Material used, name of source, certification number and date of actual material certification, melt or serial or batch number.	x	x	x	x	
List each Special Process performed at the Seller or at any sub-tiers including General Dynamics-OTS Canada		x	x	x	x
Deviation / Non-Conformity Report numbers if applicable.	x	x	x	x	x
Acceptance Test Report.		x	x	x	x
Metallurgical Report (Chemical and Mechanical Analysis), Mills certificates.	x	x	x	x	x
Process specification number, revision level, the type and class, date of actual processing and other instructions as specified on the General Dynamics-OTS Canada Purchase Order and/or TDS.	x	x	x	x	x
For thermal treatment: entry-exit time, temperatures and media for each step, hardness obtained.		x	x	x	x
All test data required by the drawing and specifications, including thickness of coatings.					x
Signature or stamp of person authorized to release the Product.	x	x	x	x	x
Date of certification.	x	x	x	x	x

**9. FIRST ARTICLE ACCEPTANCE TEST (FAAT)**

When specified as a line item on the Purchase Order (PO), the Subcontractor shall perform a FAAT. The FAAT shall be in accordance with the PO requirements, the applicable item specification, the Quality Assurance Provisions (QAPs) and drawings listed in the Technical Data Package (TDP). The First Article hardware shall be representative of the manufacturing process and must be manufactured at the same location, on the same equipment, using the same procedures and processes as those used to manufacture the contract production items. When is required, the Subcontractor shall support a Pre-FAAT with General Dynamics-OTS Canada prior to performance of the FAAT with the customer.

A First Article Test may be required:

- a) For all new or first time production of a component, subassembly or assembly.
- b) When any major change is made to the technical data, drawing, QAP or associated specifications.

5. REVISION  <p style="text-align: center;"><b>1</b></p>	6. PAGE  <p style="text-align: center;"><b>Page 8 sur 21</b></p>
--	--



1. OBJECT  <p style="text-align: center;"><b>QUALITY ASSURANCE REQUIREMENTS FOR SELLER</b></p>	2. NUMBER <p style="text-align: center;"><b>QUA-16G05</b></p> <hr/> 3. DEPARTMENT <p style="text-align: center;">SELLER QUALITY</p>
--	---

- c) Whenever there is a lapse in production for a period in excess of 90 calendar days or when specified in purchase order.
- d) Whenever there is a change in the equipment utilized, the place of performance, or a change in the manufacturing process. Note: This includes any physical movement of the equipment.
- e) Whenever the material is changed or the material seller changes. Note: This applies to material changes even if the drawing allows the option of multiple materials to be selected.

When any of these conditions occur, the Subcontractor must immediately provide notification and justification, as well as a FAAT Plan in accordance with the applicable quality requirements contained in the purchase order. When a pre-production FAAT is required, the Subcontractor is responsible for inspecting and ensuring that the First Article hardware is in conformance with all drawings, specification and contract requirements prior to submitting to General Dynamics-OTS Canada. Variable data shall be recorded whenever possible.

FAAT documentation shall include but is not limited to; Attribute and Variable Data, Certified Material Test Reports (CMTR), Certificates of Conformance (C of C), Special Process Certifications, Ammunition Data Cards (ADC), and Statistical Process Control (SPC) historical data.

Inspections and/or tests which are destructive or environmental in nature shall be performed during the General Dynamics-OTS Canada/U.S. Government First Article Inspection (as applicable), and shall be performed upon additional sample parts selected from the same lot(s) from which the First Article sample was selected. Unless otherwise specified, General Dynamics-OTS Canada and/or the U.S. Government shall randomly select 10 pieces sample or more as required from the lot or batch presented.

All pieces of the complete First Article shall be considered as destructively tested items unless specifically exempted by other provisions of this sub-contract. The Subcontractor shall not reuse any components from items used in a destructive test during First Article, lot acceptance in-process testing, unless specifically authorized by General Dynamics-OTS Canada. The General Dynamics-OTS Canada and/or the Government reserve the right to take title to all or any items or components described above. General Dynamics-OTS Canada and/or the Government may take title to all or any items or components upon notice to the subcontractor. Those items and components to which General Dynamics-OTS Canada or the Government does not obtain title shall be rendered inoperable and disposed of as scrap by the subcontractor. General Dynamics-OTS Canada reserves the right to perform a Pre-FAAT prior to the official FAAT and/or a Pre-Production Readiness Review (with the USG) to ensure the product will pass the FAAT and that the Subcontractor is ready and approved for production.

5. REVISION  <p style="text-align: center;"><b>1</b></p>	6. PAGE  <p style="text-align: center;"><b>Page 9 sur 21</b></p>
--	--

1. OBJECT  <p style="text-align: center;"><b>QUALITY ASSURANCE REQUIREMENTS FOR SELLER</b></p>	2. NUMBER  <p style="text-align: center;"><b>QUA-16G05</b></p>
	3. DEPARTMENT  <p style="text-align: center;">SELLER QUALITY</p>

All First Article items, regardless if destructively tested or not, shall not be re-entered into the lot as production material without written approval from General Dynamics-OTS Canada. The U.S. Government may request to take possession of the FAAT upon request at no cost to General Dynamics-OTS Canada and/or the U.S. Government. FAAT plans and reports shall be submitted to General Dynamics-OTS Canada.

**10. STATISTICAL PROCESS CONTROL**

A general SPC plan and a detailed SPC plan shall be submitted and approved when required prior production. The seller shall evaluate and where practical measure the capability of manufacturing processes compared to product design requirements. The Statistical Process Control (SPC) program shall be an integral part of seller's quality system. Seller shall use SPC techniques in conjunction with quality/productivity improvement efforts to continually reduce the variability of product quality characteristics with respect to the specified design requirements and tolerances. As a minimum, all "key characteristics" identified in the Technical Data Package (TDP) and variable Acceptance Test Procedure (ATP) parameters shall be evaluated with SPC techniques and improvement plans established to reduce variation.

**10.1 General SPC Plan**

An approved General Management Plan on Statistical Process Control is required prior to the start of manufacturing. The elements that this plan must contain are at least but not limited to:

- a) The title and a revision page including the signature of key management personnel.
- b) Policies and scope regarding the application of a SPC
- c) The organizational management structure
- d) Training programs
- e) Statistical studies on manufacturing and control.
- f) Policies that are intended to achieve the required objectives
- g) Policies to maintain objectives including corrective actions
- h) Statistical method used
- i) Seller requirements
- j) Acceptance items process using SPC process
- k) Audit system
- l) Measurement error analysis and control process

5. REVISION  <p style="text-align: center;"><b>1</b></p>	6. PAGE  <p style="text-align: center;"><b>Page 10 sur 21</b></p>
--	---

1. OBJECT  <p style="text-align: center;"><b>QUALITY ASSURANCE REQUIREMENTS FOR SELLER</b></p>	2. NUMBER  <p style="text-align: center;"><b>QUA-16G05</b></p>
	3. DEPARTMENT  <p style="text-align: center;">SELLER QUALITY</p>

**10.2 Detailed General Plan**

A detailed plan approved on the SPC is required prior to the start of manufacturing. The elements to be contained in the plan are as a minimum:

- a) Selection criteria for major characteristics and components
- b) A list of characteristics to be checked.
- c) Justification for not using the SPC on certain characteristics (critical and major)
- d) An implementation schedule
- e) The requirements for a sub-contractor of key items (key items are to be jointly defined by the seller and General Dynamics-OTS Canada.
- f) The process of accepting items using statistical techniques

The seller’s detailed plan must demonstrate that the goal is to achieve a process capability (Cpk) of 2.00 or more for key characteristics and 1.33 or more for other features.

A monthly SPC progress report is required and shall be submitted to General Dynamics-OTS Canada.

For any process with a capability (Cpk) smaller than 2.00 on key characteristics or smaller than 1.33 on other features, a cause and corrective action must be identified and provided to General Dynamics-OTS Canada.

The techniques used for the control charts must be in accordance with the American National Standard Institute (ANSI) Z1.1, Z1.2 and Z1.3 or any other alternative approved by General Dynamics-OTS Canada.

Acceptance of items based on the use of the PSC may be authorized by General Dynamics-OTS Canada for any feature listed with the exception of a critical classified feature.

**11. CRITICAL CHARACTERISTICS CONTROL PLAN**

**11.1 CCCP Requirements**

When required by General Dynamics-OTS Canada purchase order, the seller shall establish a document and maintain a product specific, Critical Characteristics Control (CCC) Plan. This document shall be submitted and approved by General Dynamics-OTS Canada. The plan shall be designed with the objective of preventing the creation or occurrence of non-conformance of a critical characteristic. The CCC Plan shall include or reference all procedures, work and handling instructions and process controls relating

5. REVISION  <p style="text-align: center;"><b>1</b></p>	6. PAGE  <p style="text-align: center;"><b>Page 11 sur 21</b></p>
--	---

1. OBJECT  <p style="text-align: center;"><b>QUALITY ASSURANCE REQUIREMENTS FOR SELLER</b></p>	2. NUMBER <p style="text-align: center;"><b>QUA-16G05</b></p> <hr/> 3. DEPARTMENT <p style="text-align: center;">SELLER QUALITY</p>
--	---

to any critical characteristics. Mistake Proofing techniques of the material handling and inspection systems shall be a part of the CCC Plan.

The manufacturing processes must be designed to prevent the creation of a critical defect. Characteristics classified as "critical" must be checked at least 100% using non-destructive methods. The 100% verification number will depend on the number required to achieve a 90% confidence level in order to achieve a default rate of no more than one in one million per product delivered. The seller is required to prepare a CCCP including any critical defects for which you or your subcontractor is responsible. This plan must be approved by General Dynamics-OTS Canada prior to the manufacture of any item and cannot be modified without the agreement of General Dynamics-OTS Canada.

The document DI-MGMT-81986 shall be used as a guidance for developing this plan.

**11.2 CCCP Contents**

The seller shall produce a CRITICAL CHARACTERISTICS PLAN (CCCP) including all critical items identified on drawing and or in specification listed on the General Dynamics-OTS Canada purchase order. The critical can be identified as of Critical or Special characteristics.

The plan shall contain as a minimum but not limited to the following items:

The requirement to report a critical defect when detected during inspection or after the designated point of inspection.

The requirement to stop the affected operations and suspend the manufacture of any affected item if a critical defect is detected regardless of the location in the process (unless the Critical Defect Action Plan is in place). General Dynamics-OTS Canada approval is required to resume manufacturing.

- a) A manufacturing process flow chart for critical defects that shows where process controls and inspections are applied.
- b) A description of the procedure(s) for the identification, segregation and disposition of critical defects.
- c) The process which items containing critical defects that cannot or will not be reworked or repaired can be rendered inoperable so that the possibility of investigating them is not impossible.
- d) Inspection/test procedures and acceptance criteria for critical defects.
- e) List of acceptance inspection equipment.

5. REVISION  <p style="text-align: center;"><b>1</b></p>	6. PAGE  <p style="text-align: center;"><b>Page 12 sur 21</b></p>
--	---

1. OBJECT  <p style="text-align: center;"><b>QUALITY ASSURANCE REQUIREMENTS FOR SELLER</b></p>	2. NUMBER <p style="text-align: center;"><b>QUA-16G05</b></p> <hr/> 3. DEPARTMENT <p style="text-align: center;">SELLER QUALITY</p>
--	---

- f) Requirements for the training and certification of operators and inspectors.
- g) Actions to be taken when manufacturing is stopped due to the detection of a critical defect.
- h) Process of root cause and corrective actions.

**12. CRITICAL PLAN OF ACTION**

**12.1 CPOA Requirements**

When required by General Dynamics-OTS Canada’s purchase order, the seller shall develop alternative plans and provisions referred to a Critical Plan of Action (CPOA), relative to critical characteristics. All CPOAs are independent and shall be evaluated by General Dynamics-OTS Canada. The CPOA and any subsequent revisions submitted require approval prior to implementation. Unless otherwise specified at time of approval, contractor shall review and evaluate CPOAs for currency and process improvements at least on an annual basis and submit results to General Dynamics-OTS Canada. Unless otherwise approved by General Dynamics-OTS Canada, each critical characteristic shall require a separate CPOA. If the CPOA includes other documents by reference they shall be submitted upon request.

**12.2 CPOA Contents**

The plan shall contain as a minimum the following items:

- a) A complete explication of probable causes for failures with historical reports to support them.
- b) Identification of acceptable threshold (historically based on the failure rate or the maximum failure rate allowed). The acceptable limit can simply be a defect percentage or based on the limits of a P control chart.
- c) The method to detect appearance of a defect.
- d) Ways to determine causes of defect as well as follow-up on actions when acceptable limits are reached.

The document DI-MGMT-81996 shall be used as a guidance for developing this plan.

5. REVISION  <p style="text-align: center;"><b>1</b></p>	6. PAGE  <p style="text-align: center;"><b>Page 13 sur 21</b></p>
--	---

1. OBJECT  <p style="text-align: center;"><b>QUALITY ASSURANCE REQUIREMENTS FOR SELLER</b></p>	2. NUMBER <p style="text-align: center;"><b>QUA-16G05</b></p> <hr/> 3. DEPARTMENT <p style="text-align: center;">SELLER QUALITY</p>
--	---

**13. CONTROL OF NON-CONFORMING PRODUCT**

The Seller shall establish and maintain an effective and positive system for identifying, segregating, and controlling material found not in conformity with requirements. An initial report to the Buyer of any material considered for MRB action is required within 2 business days of rejection. The Seller is advised that the authority to make Material Review Board (MRB) dispositions for assemblies, sub-assemblies, or components that comprise items listed on the Purchase Order is not granted. The Seller does not have the authority to perform any repairs or make substitutions. The Seller does, however, have the authority to scrap product that doesn't use or contain buyer supplied material. Any decisions to scrap any items made from Buyer supplied material must have the written consent of the Buyer.

The Seller shall not incorporate any change, deviation, or waiver which affects the Buyer's, Seller's, or Government's specifications or drawings prior to receipt of written authorization from the Buyer. This will also include any Acceptance Test Procedure or process specification changes or other requirements imposed for the acceptance of the item as described in the Purchase Order.

Additionally, the Seller is not authorized to process any items "at their risk" by incorporating the proposed change into deliverable items prior to:

- a) Submitting to the Buyer a Request for Change/waiver form QUA-16G05-F01,
- b) Informing the Buyer in writing that the Seller intends to proceed with the change described "at their risk" prior to receiving the Buyer's full acceptance of the change,
- c) Receiving in writing from the Buyer permission to proceed "at their risk".

Unrelated changes / deviations / waivers shall not be submitted on the same Request for Change form. Each change must be submitted separately to the Buyer.

In a case of notice of escapement, the seller shall notify General Dynamics-OTS Canada buyer immediately within 24 hrs by writing including purchase order number, part number, lot(s) numbers involved and a description of the event. The seller shall include a statement regarding the containment activity to ensure that no other similar products are delivered to General Dynamics-OTS Canada.

**14. CORRECTIVE ACTION**

When the Buyer determines that an issue exists, the Seller shall provide a formal response to any Supplier Corrective Action Request (SCAR) issued by the Buyer within the following timeframe.

5. REVISION  <p style="text-align: center;"><b>1</b></p>	6. PAGE  <p style="text-align: center;"><b>Page 14 sur 21</b></p>
--	---

1. OBJECT  <p style="text-align: center;"><b>QUALITY ASSURANCE REQUIREMENTS FOR SELLER</b></p>	2. NUMBER <p style="text-align: center;"><b>QUA-16G05</b></p> <hr/> 3. DEPARTMENT <p style="text-align: center;">SELLER QUALITY</p>
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**A. Initial response:** The Seller shall provide to the Buyer an initial response within 48 hours (2 business days if the 48 hours timeframe falls during a weekend or holiday). Extensions to the initial response due date may be granted at the discretion of the Buyer, but shall not exceed an additional 48 hours. The Supplier Point of Contact (POC) shall provide an initial response which shall include at a minimum:

- Acknowledgement that the SCAR has been received and understood.
- A simple statement of the condition without placing blame or attempting to solve the issue.
- A short term containment effort to prevent the condition from getting to the next step or the customer. This should include the name of the person responsible (POC) and the date of implementation.

An initial data gathering plan – this plan may not be fully realized at this stage of the process, but may be used as a starting point which may be modified and updated as the process develops. Again, this should include the name of the person responsible (POC) and the date of initiation and projected dates of additional events.

**B. Interim response(s):** As the Seller generates updates to either the containment action or to the initial data gathering plan they shall be supplied to the Buyer.

**C. Final response:** The Seller shall provide a final response to the Buyer within 30 calendar days of initial receipt of the SCAR. Extensions to the final response due date may be granted at the discretion of the Buyer, but only in the event that the need for extension is justified and is evidenced by a plan of action with dates extending beyond the original final response due date. The final response shall include at a minimum:

- The completed fully executed data gathering plan with analysis/interpretation of data.
- A determination of the root cause for the condition.
- A determination of actions needed to prevent recurrence of the condition.
- A corrective action implementation plan including the name of the person responsible and the date of implementation.
- A plan for future monitoring of the implemented actions to determine effectiveness.
- All objective evidence of actions taken to support the root cause and corrective actions implemented.

A SCAR may not be closed until all actions have been implemented. Failure by the Seller to adhere to the response requirements shall reflect on the Seller's **supplier rating** and their ability to quote future business.

5. REVISION  <p style="text-align: center;"><b>1</b></p>	6. PAGE  <p style="text-align: center;"><b>Page 15 sur 21</b></p>
--	---

1. OBJECT  <p style="text-align: center;"><b>QUALITY ASSURANCE REQUIREMENTS FOR SELLER</b></p>	2. NUMBER <p style="text-align: center;"><b>QUA-16G05</b></p> <hr/> 3. DEPARTMENT <p style="text-align: center;">SELLER QUALITY</p>
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When corrective action is required for Government Source inspected items, the Seller shall coordinate such actions with the Government Quality Assurance Representative assigned to their facility.

The SCAR request shall be documented on the form supplied by the buyer when requested.

**15. IDENTIFICATION AND TRACEABILITY**

The Seller must maintain a system that ensures the traceability of the material used and records the evidence of acceptance of the requisitions of the purchase order. Traceability must be maintained from receipt of the raw material to the finished product.

Traceability is defined as this requirement which allows historical access, from the identification of the manufactured components or documentation, to records identifying the single raw material, the special process, the lot, the heat lot of the material, the melted product, etc. from which the component was manufactured.

**16. MEASUREMENT SYSTEM EVALUATION (MSE)**

The Measurement and Inspection Equipment System Design documentation for Acceptance of Product describes the Acceptance Inspection Equipment (AIE), Automated AIE (AAIE), and various measurement systems, used to meet the inspection and test requirements to deliver units and other end products that conform to contract, specification, QAP and drawing requirements. This documentation is used to evaluate the acceptability of these designs to meet contract requirements.

The Seller must submit a list of all inspection instruments used for approval that are necessary to ensure compliance of components and finished items with the requirements of the Purchase Order. Any equipment mentioned must be available for use at the time of the audit or submission of pre-production if applicable. The AIE List submitted covering all classes of critical (Level I and II), major and minors (when required) defects, after approval by General Dynamics-OTS Canada, could be forwarded to the appropriate client (government agency) for review and approval. A minimum of 30 days is required for disposal.

The seller is responsible for the design, manufacture or purchase, maintenance and calibration of all gauges. Each item must be measured in units as measured. Metric gauging for metric dimensions is required, no conversion is allowed. For all equipment, the operating and calibration procedures used to evaluate the listed features must be submitted. On the first submission of an AIE List, a copy of the drawing and or

5. REVISION  <p style="text-align: center;"><b>1</b></p>	6. PAGE  <p style="text-align: center;"><b>Page 16 sur 21</b></p>
--	---



1. OBJECT  <p style="text-align: center;"><b>QUALITY ASSURANCE REQUIREMENTS FOR SELLER</b></p>	2. NUMBER  <p style="text-align: center;"><b>QUA-16G05</b></p>
	3. DEPARTMENT  <p style="text-align: center;">SELLER QUALITY</p>

manufacturer data sheet of each gauge must be submitted with the list. This includes the following but not limited to:

- 1) Any special gauge
- 2) Standard Measuring Equipment
- 3) Temporary assembly
- 4) Laboratory equipment

As a minimum, the submission shall contain the following information:

- a) Contract number
- b) Item model number/part number
- c) Component or assembly drawing number and revision (if any) Appropriate defect characteristic
- d) Operating instructions/ Calibration instructions OICI) Recall procedures, as applicable
- e) Any manuals or literature required to operate and maintain the system
- f) Personnel qualifications necessary to perform the inspection or operate the Equipment

AAIE designs shall include the minimum information above in addition to: An evaluation and apportionment of system reliability, considering operational reliability, decision making reliability, handling/inspection accuracy, calibration/verification cycles, configuration control methods, and recall procedures for product which requires re-inspection.

Automated AIE (AAIE) shall utilize failure safe designs whereby the decision making logic and the material handling devices shall normally operate in a reject mode until an accept mode signal is obtained. AAIE shall be qualified IAW MIL-A-70625, and the AAIE shall accept only conforming material. All characteristics requiring AAIE per the TDP shall utilize inspection equipment with a minimum demonstrated reliability of 99.8% at a 90% confidence level to detect non-conforming material unless otherwise specified. AAIE designs which inspect for metallic contamination of the propellant and utilize eddy current/magnetic inspection are exempt from the requirement to operate in the reject mode until an accept signal is obtained. AAIE designed for inspection of the primer body which utilizes eddy current inspection is exempt from the requirement to operate in the reject mode until an accept signal is obtained.

The MSE designs previously approved are authorized for use on this contract upon a successful rollover approval request. Any new contractor MSE designs, or any changes from previously approved MSE designs, shall be submitted for approval. General Dynamics-OTS Canada and/or the Government reserve the right to requalify any

5. REVISION  <p style="text-align: center;"><b>1</b></p>	6. PAGE  <p style="text-align: center;"><b>Page 17 sur 21</b></p>
--	---

1. OBJECT  <p style="text-align: center;"><b>QUALITY ASSURANCE REQUIREMENTS FOR SELLER</b></p>	2. NUMBER <p style="text-align: center;"><b>QUA-16G05</b></p> <hr/> 3. DEPARTMENT <p style="text-align: center;">SELLER QUALITY</p>
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previously qualified MSE used for the performance of this contract at any time throughout the life of the contract.

Qualification and Certification of Non-destructive Test personnel: Personnel operating NDT AIE in support of this contract shall be certified and qualified IAWAIA/NAS 410.

If the inspections of the specified features are performed outside the seller’s premises, the measuring equipment for approval must be submitted to General Dynamics-OTS Canada for approval by the seller.

The AIE package shall be in accordance with the specification DI-QCIC-81960 and form QUA-16F19A requirements.

Any revisions to the AIE List must be submitted to General Dynamics-OTS Canada for assessment and approval at least 30 days in advance.

**17. REPAIR / REWORK**

**17.1 Repair**

Additional operations performed on a non-compliant item or equipment to render it usable, but without removing the non-compliance. A repair procedure is required. Approval of this procedure must be obtained from General Dynamics-OTS Canada prior to use. The non-compliant item or material may not be accepted prior to approval of this procedure by General Dynamics-OTS Canada.

The repair procedure shall provide for the re-inspection conditions that take into account the requirements of the Technical Data List (TDL) and shall provide for the inspection of any difference that may be introduced as a consequence of the repair method.

**17.2 Rework**

The treatment of non-conforming material using a process that is different from that used regularly (documented) in order to bring that material back into a fully compliant condition. For example, if additional operations are to be performed on non-conforming material, such as disassembly or cleaning, before such material can be reintroduced into the regular process, this should be considered as reworked material. In the event that non-compliant material does not require special preparation prior to undoing the previous operations, but a different process is to be used than is normally used, this shall be considered to be reworked material.

If non-conforming material is reintroduced as is into the regular (documented) process, this should be considered reprocessed and not reworked. Additional procedures are required for reworking material. These procedures must be approved by General

5. REVISION  <p style="text-align: center;"><b>1</b></p>	6. PAGE  <p style="text-align: center;"><b>Page 18 sur 21</b></p>
--	---

1. OBJECT  <p style="text-align: center;"><b>QUALITY ASSURANCE REQUIREMENTS FOR SELLER</b></p>	2. NUMBER  <p style="text-align: center;"><b>QUA-16G05</b></p>
	3. DEPARTMENT  <p style="text-align: center;">SELLER QUALITY</p>

Dynamics-OTS Canada prior to implementation. Procedures to rework material from a previous contract may be used for a new contract. A procedure for reworking material shall provide a re-inspection process on the non-conforming material to ensure that the non-conformance(s) has been eliminated. In addition, re-inspection should provide for inspection of any features that would have been affected by a change and that would have been introduced as a result of the rework process.

**Reprocessed material:** Material declared non-conform and reintroduced as is using the original or regular documented process to bring it back into a fully compliant condition. Reworked material must be re-inspected to ensure that the non-compliance has been eliminated. No notification or authorization from General Dynamics-OTS Canada is required to reprocess non-conforming equipment.

**18. MONITORING AND MEASUREMENT OF PRODUCT**

The Seller must demonstrate that all materials received, manufactured and tested have been inspected in accordance with requirements and specifications as required. The critical items including key characteristics and process sensitive require one hundred percent (100%) inspection.

The seller shall generate and maintain inspection and test records (Acceptance, In-progress and Final Testing) providing objective evidence that the product has been inspected and/or tested for all critical characteristics, special, major and minor according to specifications and drawings. The characteristics of major and minor defects shall be inspected in accordance with the sample sizes specified in the specifications.

Inspection requirements identified by the Documentation, the engineering drawing or the specification take precedence over any inspection options. Records must identify the authority responsible for inspection and release of the Product at all stages. A positive recall system must be in place to monitor the Product released prior to its verification for conformance to the requirements.

For raw materials accepted on the basis of certification and/or test reports, the Seller must verify the chemical and physical properties of the material recorded on the certificates and test reports against the applicable specification(s) and maintain evidence of quality control acceptance.

**19. PRESERVATION AND PACKAGING OF PRODUCT**

The Seller must use designated areas in order to prevent damage or deterioration of the Product, pending use or delivery. Stock condition in temporary storage shall be assessed at planned intervals.

5. REVISION  <p style="text-align: center;"><b>1</b></p>	6. PAGE  <p style="text-align: center;"><b>Page 19 sur 21</b></p>
--	---

1. OBJECT  <p style="text-align: center;"><b>QUALITY ASSURANCE REQUIREMENTS FOR SELLER</b></p>	2. NUMBER  <p style="text-align: center;"><b>QUA-16G05</b></p>
	3. DEPARTMENT  <p style="text-align: center;">SELLER QUALITY</p>

The seller packaging shall be done in accordance with requirements stated in the purchase order and applicable specification and/or drawings. If no requirements are identified, the packaging shall be done in accordance with the Documentation. In all circumstances, the guidelines of ASTM-D3951 and/or MIL-STD-2073 applies in order to prevent physical, contamination and corrosion damage in transit. The packaging materials in direct contact with the Product must be dry, non-corrosive and non-hygroscopic. Individual packaging is required.

Any Product received from the Seller in a damaged condition due to improper packaging or showing evidence of rust or surface corrosion shall be returned to the Seller or reworked by General Dynamics-OTS Canada at the Seller's expense. Note: Where parts are moved from seller to seller (typically via processing performed) and found to have any form of damage or corrosion upon return, the last seller that handled the parts will be liable as they either 1) Created the issue themselves, or 2) did not adequately inspect the product upon receipt. No exceptions will be made here. The seller is responsible to ensure product integrity is maintained throughout the manufacturing/processing cycles.

The Product shall not have more than twenty five percent (25%) of its shelf life expired at the date of receipt at General Dynamics-OTS Canada.

Foreign Object Damage Prevention Program. Whenever a potential risk of "Foreign Object Debris" (FOD) entrapment or migration exists during the course of manufacturing, Special process or Assembly, the Seller or Seller's sub-tier shall establish a "Foreign Object Damage Prevention Program" that assures delivery of Product to GENERAL DYNAMICS OTS Canada that are free of foreign objects.

**20. CONTROL OF CHANGES**

The Seller must maintain a system to manage and control changes that may affect processes, products and documentation.

**21. CONTROL OF PRODUCTION EQUIPMENT, TOOL GAUGES**

The seller must maintain a calibration system that meets one of the following specifications (or equivalent): ANSI Z540 or ISO17025. This provision applies to all monitoring, testing and measuring equipment provided by General Dynamics-OTS Canada for the use of the seller as well as his own equipment. Calibration certificates proving the calibration have been made against standard calibrated to national standards.

**22. COUNTERFEIT PARTS**

Purchased parts must be obtained by the Original Component Manufacturer (OCM)/Original Equipment Manufacturer (OEM), or through an OCM/OEM authorized distributor chain. "Counterfeit Work" means Work that is or contains items

5. REVISION  <p style="text-align: center;"><b>1</b></p>	6. PAGE  <p style="text-align: center;"><b>Page 20 sur 21</b></p>
--	---

1. OBJECT  <p style="text-align: center;"><b>QUALITY ASSURANCE REQUIREMENTS FOR SELLER</b></p>	2. NUMBER <p style="text-align: center;"><b>QUA-16G05</b></p> <hr/> 3. DEPARTMENT <p style="text-align: center;">SELLER QUALITY</p>
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misrepresented as having been designed and/or produced under an approved system or other acceptable method. Supplier must immediately notify General Dynamics-OTS Canada with the pertinent facts, if the supplier becomes aware or suspects that he has furnished Counterfeit Work. When requested by General Dynamics-OTS Canada, the supplier shall provide OCM/OEM documentation that authenticates traceability of the affected items to the applicable OCM/OEM.

**23. RETENTION OF RECORDS AND DOCUMENTATION**

Seller shall maintain, on file at Seller’s facility, quality records, test specimen and Documentation traceable to the conformance of Product (or components thereof) delivered to GENERAL DYNAMICS-OTS Canada for a period **minimum of 7 years**. Seller shall make such records and Documentation available to regulatory authorities and General Dynamics-OTS Canada’s authorized representatives. Seller shall retain such records and Documentation indefinitely, unless approval given by General Dynamics-OTS Canada SQA / QA in writing.

At the expiration of such period set forth above and prior to any disposal of records (Documentation), Seller will notify General Dynamics-OTS Canada of records to be disposed of and General Dynamics-OTS Canada reserves the right to request delivery of such records. In the event General Dynamics-OTS Canada chooses to exercise this right, Seller shall promptly deliver such records to General Dynamics-OTS Canada on media agreed to by both parties.

5. REVISION  <p style="text-align: center;"><b>1</b></p>	6. PAGE  <p style="text-align: center;"><b>Page 21 sur 21</b></p>
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