SUPPLIER REQUIREMENTS MANUAL

These requirements supplement General Dynamics-Ordnance and Tactical Systems quality assurance clauses located at the GDOTS supplier website, and have been provided to assist our suppliers. If this document conflicts with the requirements, terms and conditions listed in the purchase order, then the requirements, terms and conditions listed in the purchase order will govern. Users of this document may request clarifications or changes in writing by addressing correspondence to: Quality Manager, GDOTS, 11714 North Creek Parkway North, Suite 200, Bothell, WA 98011.

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1. Introduction

The goal of the supplier requirements is to document and effectively transfer GDOTS requirements to its supply chain emphasizing the need for compliant parts, on-time, with correct paperwork accompanying all deliveries. This document applies to suppliers of GDOTS.

Suppliers to GDOTS are expected to ensure the quality of materials, services and/or parts coming from their direct suppliers and or sub-tier external providers through supplier selection, production approval and on-going supplier evaluation.

The requirements specified in this document are maintained by the Quality Department, GDOTS Seattle. All inquiries and requested changes should be addressed to the attention of the Quality Manager.

2. References

SPS33202- Sampling Plans and Procedures
SPS40809- Special Processes Certification
SPS40908- Tooling Terms and Conditions
SPS40918- Joint NDA
SPS42610- Supplier Non-conformance Report
SPS43201- First Article Inspection Report
TipQA- Corrective and Preventive Action Report
TipQA – Non-Conformance Report (NCR)

3. Requirements

3.1. Quality Assurance Clauses

GDOTS Seattle Quality Assurance Clause, apply to purchased goods and services. Terms and conditions are noted in GDOTS purchase orders. This document is provided to supplement the GDOTS standard terms and conditions. The supplier is still responsible for reading, understanding and complying with all of the terms and conditions and Quality Clauses referenced in the purchase order.

Definitions for the Quality Clauses can be found at the GDOTS supplier website: https://www.gdots.com/suppliers/supplier-resources/seattle-2/

3.2. Communications

Communications between supplier and GDOTS organizations are essential if goals and objectives are to be met. The GDOTS Procurement Department is the single point of contact for suppliers.

The supplier shall not deviate from the requirements of the purchase order and its referenced documents without approval in writing from GDOTS procurement department. All communications are to include the purchase order buyer.

For those purchase orders that require source inspection, first article inspection or other inspections by GDOTS personnel at the Supplier's location, contact GDOTS by email at seattle-sourceinspection@GDOTS.com. Include part number(s), PO number(s), PO line-item number(s), quantity and date available in the email.

All technical data shall be submitted via Kiteworks secure email service to seattle-sourceinspection@gdots.com. Contact GDOTS Seattle Procurement for assistance as required.

3.3. Supplier Qualification

GDOTS expects all suppliers to establish and implement a quality management system (QMS). Refer to Quality Clause [**2.3**] of the GDOTS supplier website to see the options to satisfy this requirement, if it is listed in the purchase order.

GDOTS expects all suppliers to implement sufficient process controls to ensure conformance to GDOTS requirements. GDOTS reserves the right to verify that a supplier's quality management system complies with GDOTS's requirements by on-site quality system, product or process audits at no cost to GDOTS. Failure of an audit may result in the supplier being removed from the Approved Supplier List (ASL).

Supplier qualifications are accomplished by the use of surveys and/or verification audits which may be conducted onsite.

Supplier shall notify GDOTS Seattle procurement of any substantive changes to the supplier's quality management system (including loss of 3rd party certification) or change of person responsible for quality control and inspection.

3.4. Change Notification

The supplier shall obtain formal approval from the authorized GDOTS representative for any change that includes any of the following:

1. Correction of a discrepancy on a previously approved part.
2. Product modified by an engineering change to design records, specifications or materials.
3. Changes in the design, process or manufacturing site.
4. Change of suppliers for parts or services (e.g. heat treat, passivation).

3.5. Special Processes

Special processes are those processes that cannot be verified through normal means of inspection (e.g. Welding, brazing, anodizing, etc.). If a part requires a special process refer to Quality Clause [**3.10**] to be performed by a sub-tier supplier, that sub-tier supplier must be surveyed by the supplier and approved by GDOTS. Any of the third party audits listed below may be used in lieu of the on-site survey.

Third party audits accepted in lieu of surveys:

NADCAP
Boeing
Raytheon
Lockheed/Martin
GDOTS

When a special process is required GDOTS will provide SPS40809 Special Process Certification form to the supplier. The supplier will record the sub-tier special process supplier(s) on SPS40809 and submit to GDOTS for approval prior to fabrication. GDOTS retains right of disapproval of sources and adequacy of certification.

Note: Form SPS40809, completed and signed by Supplier Representative, must be returned to the Buyer shown on the purchase order prior to the manufacture and/or processing to the purchase order.

3.6. Continuous Improvement

GDOTS expects its suppliers and partners to implement programs for continuous improvement of products and processes. GDOTS will, when deemed necessary by GDOTS and the supplier, assist the supplier in implementing these continuous improvement activities. The purpose of these activities is to make the program more profitable for both GDOTS and its suppliers.

If Quality Clause [**6.61**] of the GDOTS supplier website is listed on the PO, supplier shall be capable of using statistical process control (SPC) per ANSI Z1.1, Z1.2, and Z1.3 to provide statistical evidence of product quality.

3.7. First Articles and First Part Inspections.

First Parts :
Refer to Quality Clause [**5.54**] of the GDOTS supplier website for first part inspection requirements. If a first part inspection is required, GDOTS procurement will work with the supplier to determine the date for the first article inspection (FAI). The date of the FAI should be early enough that the supplier is able to make changes, if needed, without impacting the delivery schedule. First parts shall be produced using production processes, tooling, setups and locations. First Article items, when submitted to GDOTS shall be accompanied by supplier's first article inspection report. The supplier shall notify GDOTS by Email at seattle-sourceinspection@gdots.com of any change, between the first part submission and production or during production.

First Articles: Quality Clauses [**5.55**] and [**5.56**] of the GDOTS supplier website for first article requirements. First article inspection shall be on a single completed article that is clearly labeled as the "first article". All drawing(s) characteristics and notes must be inspected or tested and reported in accordance with the latest revision of AS9102. When applicable, first articles shall be identified to show which tool-serial number or cavity number was used (if more than one cavity is used, submit a FAI report for each cavity). FAI is required for sub-assemblies and detail parts that make up the configuration item(s) included on the P.O. with the exception of Commercial Off The Shelf (COTS) items.

A new first article is required if any of the following occurs:

i) First production run.
ii) A change in design affecting fit, form, function or interchangeability of the part.
iii) A change in the manufacturing source(s) or location(s) and/or buildings/facilities.
iv) A change to manufacturing planning or process flow.
v) A change to manufacturing tooling, test equipment or inspection tooling (including replacements).
vi) A change to materials used or consumed in fabrication.
vii) Prolonged shutdown of normal manufacturing operations exceeding 180 days.
viii) A change in numerical control manufacturing or inspection program or translation to another media.
ix) Lapse in production of the specific item being produced exceeding 180 days Quality Clause [5.56] or 12 months Quality Clause [5.55].
x) A natural or man-made event which may adversely affect the manufacturing process.
xi) As requested by Quality.

The supplier shall make this change notification prior to production of any parts using the proposed change. GDOTS must approve any of the above changes.

AS9102 First Article Inspection forms can be downloaded free at www.iaqg.org/standards/forms/. Supplier may also request a copy of GDOTS FAI form SPS43201.

3.8. Quality Validation of Deliveries

The supplier guarantees that the materials and parts as delivered conform to requirements listed in the purchase order and the terms and conditions. Validation of this guarantee can be accomplished by regular product audits or other agreed upon measures. GDOTS reserves the right to request the in-process documents and records from the supplier or to review these documents on the supplier's premises.

3.9. Non-Conforming Material

The supplier shall notify the GDOTS Procurement Department immediately when non-conforming product is detected after delivery to GDOTS. For non-conformances found by the supplier that require GDOTS MRB review and disposition, Form SPS42610, Supplier Non-conformance Report (SNR) or Supplier format non-conformance report will be used.

GDOTS will inform the supplier immediately when material or parts are found to be non-conforming either at our facilities or at our customer’s facilities.

In all cases the supplier is responsible for a continuous supply of conforming materials, services and/or parts. Once a non-conformance is identified, the supplier shall implement those containment activities necessary to protect GDOTS. If the containment activities fail to isolate GDOTS from non-conforming product, GDOTS may require further containment up to and including third party containment of the product in a separate location at the supplier’s expense. Suppliers may use sorting activities undertaken by others, but may bear the costs generated for such activities per the purchase order terms and conditions.

Within one working day (24 hours) of notification, the supplier shall provide a written assessment to GDOTS that includes the following information:

- Measures taken to ensure a continuous supply of materials or parts including the details of the identification markings on the shipping containers and shipping documentation.
- Estimate of the quantity affected by the problem. Product identification and shipping information shall be provided to assist in the assessment of impact on production schedules.

Within fifteen calendar days a final report must be submitted by the supplier containing the following information:

- Root cause analysis
- Short term corrective actions to maintain a continuous uninterrupted supply of materials or parts
- Measures to eliminate the cause of the non-conformance with scheduled date or dates of implementation
- Proof of effectiveness of the error proofing measures

This report may be in the GDOTS CPAR format, TipQA, or the supplier’s format. The 5-Why method is the preferred approach for root cause analysis. The elements of 8D is the preferred report format.

GDOTS reserves the right to charge the supplier for all outlay and costs due to the non-conformance.

GDOTS reserves the right to direct supplier to halt all processing of parts under buyer PO until root cause corrective action report is submitted, accepted, and immediate corrective actions implemented.

3.10. Right of Return

GDOTS reserves the right to return any purchased material that has been determined to be non-conforming due to the supplier. This decision may be made regardless of where the non-conformance is identified

3.11. Supplier Assessment and Development

Each quarter, a certain number of suppliers receive a supplier quality score card. The primary purpose of the supplier quality score cards is to monitor supplier performance and promote supplier development. Supplier performance in the following activities is assessed:

- Delivery
    - On time delivery is defined as those shipments that meet the PO requirements for delivery within the allowed time window.
    - The time window for deliveries is defined as the eleven day period from ten days early to one day late.
    - On time delivery is represented as PPM.
    - On time delivery represents 35% of the overall score.

- Grief
    - Defined as those deliveries that contain incomplete or incorrect documentation required by the Purchase Order.
    - Grief is represented as a percentage of total deliveries
    - Grief represents 30% of the overall score.

- Quality
    - Defined as the number of rejected or non-conforming parts or material found during or after source inspection or receiving inspection.
    - This data is generally taken from Supplier Non-conformance Reports, Reject Reports or Customer Return Reports.
    - Incoming parts quality is represented as PPM.
    - Incoming parts quality represents 35% of the overall score.

GDOTS will maintain a ranking of all suppliers receiving scorecards. GDOTS reserves the right to use score cards as input for decisions made by the Procurement Department. GDOTS also reserves the right to require corrective actions from suppliers because of poor performance as recorded on score cards.

3.12. Sub-Supplier Development

The supplier is encouraged to implement measures to systematically monitor and develop their sub-suppliers in accordance with ISO 9001

3.13. Manage Tooling

GDOTS Tooling Terms and Conditions, SPS40908, apply to tooling orders and contains GDOTS Subcontractor tooling Manual and Certified tool list reporting forms. Terms and conditions are noted in GDOTS purchase orders. This document is provided to supplement the GDOTS standard terms and conditions. The supplier is still responsible for reading, understanding and complying with all of the terms and conditions referenced in the purchase order.

This set of terms and conditions will be imposed for Accountable Tools Purchase orders for items such as jigs, fixtures, molds, patterns, gages, templates and other equipment or manufacturing aids made for GDOTS.

The Tooling Terms and Conditions will also be for imposed for GDOTS or Government owned tooling stored at the suppliers facility.

3.14. Joint Non-Disclosure Agreement

This document, SPS40918 Non-Disclosure Agreement, must be completely executed prior to sharing, disclosing and/or exchanging proprietary information relating to GDOTS Programs. This agreement covers information that is considered extremely sensitive, confidential and/or trade secret by either company.

3.15. Source Inspection (Final Inspection)

The GDOTS buyer shall be notified by Email at seattle-sourceinspection@gdots.com a minimum of five working days (excluding weekends and holidays) in advance to schedule such inspections. Source inspection/verification does not affect supplier's responsibility for product quality. Source inspected parts may subsequently be rejected.

All technical data shall be submitted via Kiteworks secure email service to seattle-sourceinspection@gdots.com. Contact GDOTS Seattle Procurement for assistance as required.

3.16. Sampling Plans and Procedures

If lot sampling inspection is used (i.e. Supplier Inspection Plan), it shall be conducted in accordance with SPS33202 Sampling Plans and Procedures, as shown in Table 1 and 2. This procedure provides guidance to acceptance sampling for measurement and inspection of product and components. When completion of a GDOTS Supplier Inspection Plan (SIP) is contractually required, the supplier shall complete the required inspections of those features to the specified AQL as specified on the SIP. The purpose of the SIP is to define the minimum part features and AQL's required based upon the specific part application. Each supplier should evaluate the SIP and incorporate additional verifications of part features deemed necessary based upon the specific manufacturing process for ensuring product compliance to all requirements. In no situation does completion of the contractually imposed SIP absolve the supplier of the responsibility of providing fully compliant product to include those features not included on the SIP.

GDOTS may instead direct use of MIL-STD-1916 in the SIP, or via contractual flow down. It is advised that suppliers producing to GDOTS design documents obtain a copy of MIL-STD-1916 and develop familiarity with its requirements.

Verification of variable requirements shall be accomplished with the use of calibrated measurement equipment. Measurement equipment capability shall be appropriate for the required tolerance.

Definitions:

AQL	Acceptable Quality Level: the maximum percent defective that can be considered satisfactory as a process average.
Bulk Items	Mil-spec material, commercial "off-the-shelf" material, catalog material, bin stock material, etc. Examples: washers, nuts, resistors, plastic caps, packaging material, fasteners (screws, bolts, inserts) etc. This type of material is usually supplied by distributors.
Lot	A collection of units of product which is produced at one time using the same combination of production equipment setup, material, methods, measuring & test equipment, and operator a from which a sample is drawn.
Lot size	The total number of units in a lot.
Sample size	The number of parts drawn from a lot or batch to be inspected. The parts are drawn at random.

Table 1: Sampling Plan Table

C = 0 SAMPLING PLANS
INDEX VALUES AND ASSOCIATED AQLS (IN PERCENT)

LOT SIZE	.010	.015	.025	.040	.065	.10	.15	.25	.40	.65	1.0	1.5	2.5	4.0	6.5	10.0
	SAMPLE SIZE															
2 to 8 units	*	*	*	*	*	*	*	*	*	*	*	*	5	3	2	2
9 to 15	*	*	*	*	*	*	*	*	*	*	13	8	5	3	2	2
16 to 25	*	*	*	*	*	*	*	*	*	20	13	8	5	3	3	2
26 to 50	*	*	*	*	*	*	*	*	32	20	13	8	5	5	5	3
51 to 90	*	*	*	*	*	*	80	50	32	20	13	8	7	6	5	4
91 to 150	*	*	*	*	*	125	80	50	32	20	13	12	11	7	6	5
151 to 280	*	*	*	*	200	125	80	50	32	20	20	19	13	10	7	6
281 to 500	*	*	*	315	200	125	80	50	48	47	29	21	16	11	9	7
501 to 1,200	*	800	500	315	200	125	80	75	73	47	34	27	19	15	11	8
1,201 to 3,200	1250	800	500	315	200	125	120	116	73	53	42	35	23	18	13	9
3,201 to 10,000	1250	800	500	315	200	192	189	116	86	68	50	38	29	22	15	9
10,001 to 35,000	1250	800	500	315	300	294	189	135	108	77	60	46	35	29	15	9
35,001 to 150,000	1250	800	500	490	476	294	218	170	123	96	74	56	40	29	15	9
150,000 to 500,000	1250	800	750	715	476	345	270	200	156	119	90	64	40	29	15	9
500,001 and over	1250	1200	1112	715	556	435	303	244	189	143	102	64	40	29	15	9

* indicates entire lot must be inspected

Note: The Acceptance Number in all cases is ZERO, reject on one defect. Upon rejection refer to Section 3.9 Control Nonconforming Material.

The standard AQL is 0.4. The AQLs listed in the shaded portion of the table may apply as properly authorized by quality engineering or otherwise as directed by contract. Customer acceptance criteria specified in the contract will supersede usage of the above table.

The selection of a non-standard AQL is to be determined based upon considerations such as:

A – Feature/ component criticality
B – Feature tolerance
C – Mating feature stack-up
D – Method of Inspection
E – Rejection history

Such AQL shall be specified for each case on case-by-case basis in the appropriate relevant instructions.

Table 2: To be used for "Bulk Items" only (see definition).

C = 0 Sampling Plan, associated AQL = 6.5%. Acceptance number is zero, reject on one defect. Upon rejection refer to SPS22600 Control Nonconforming Material.

LOT SIZE	SAMPLE SIZE
2 to 8 units	2
9 to 15	2
16 to 25	3
26 to 50	5
51 to 90	5

91 to 150	6
151 to 280	7
281 to 500	9
501 to 1200	11
1201 to 3200	13
3201 and up	15

The AQL's listed above may apply as properly authorized by quality engineering unless otherwise directed by contract. Customer acceptance criteria specified in the contract will supersede usage of the above table.

Bulk Items: Mil-spec material, commercial "off-the-shelf" material, catalog material, bin stock material, etc. Examples: washers, nuts, resistors, plastic caps, packaging material, fasteners (screws, bolts, inserts) etc. This type of material is usually supplied by distributors.

3.17. Supplier Nonconformance Report (SNR)

Supplier completes applicable SNR Form SPS42610 sections. This includes cause and corrective action pertaining to the SNR discrepancy. Supplier format non-conformance report is acceptable provided that all of the required information per SPS4210 are included. Route SNR form or supplier format non-conformance report to General Dynamics purchasing agent listed on the purchase order for disposition.

Supplier acts on the disposition and ships hardware. A copy of the dispositioned GDOTS non-conformance report must accompany the shipment of the hardware. The GDOTS non-conformance report number is to be referenced on the supplier provided certification of conformance. Unless specified otherwise by General Dynamics Material Review Board, material dispositioned as "Scrap" at suppliers facility, shall be permanently defaced or otherwise rendering it unusable (method optional) the scrap hardware/material may then be disposed of. Supplier is to provide statement with signature on the GDOTS non-conformance report upon completion of scrapping materials at the suppliers facility.

3.18. Cert. of Conformance (C of C) Quality Clause 4.29 (A,D,E,F,G)

Supplier reviews GDOTS Seattle Terms & Condition and applicable Quality clauses along with Engineering and Purchasing specifications, instructions, and requirements prior to certifying products. Contact GDOTS Seattle Buyer for any questions. These instructions/ specifications are attached to PO.

Cert of Conformance shall reference the following at a minimum:

GDOTS Part Number/Revision:	Supplier Part Number (as applicable):
GDOTS Drawing Number/Revision:	Supplier Lot ID:
Purchase Order/Revision:	Lot Quantity:
Approved Deviation/ Waivers (as applicable):	Serial Number(s) if applicable:
Applicable Specification:	GDOTS NCR number (as applicable):

Each shipment must be accompanied by a signed certification which states that all the required tests and quality assurance provisions listed in the above/ attached documents have been accomplished on the part number and serial number(s) (as applicable) noted herein. It must also state that all materials and processes including non-destructive testing used in the manufacture of this item conform to the drawing/ specification(s).

3.19. Awareness

Suppliers shall ensure that persons doing work under their control are aware of their contribution to product or service conformity, their contribution to product safety; and the importance of ethical behavior.

GDOTS reserves the right to request evidence ensuring that their personnel are aware.

3.20. Counterfeit Parts/Suspect Unapproved Parts (SUP)

Suppliers shall ensure that components and materials purchased are:

- Certified to the design specifications per buyer technical data.
- Components are purchased only from OEM or authorized distributors.
- Shall not be purchased from brokers without prior written approval from GDOTS Seattle.

3.21. Foreign Object Elimination (FOE/FOD)

Supplier should have a Foreign Object Damage/Debris (FOD) program in place. If clause [3.15] of the GDOTS supplier website is listed on the PO, supplier shall ensure that materials under this PO are free of FOD, including potential FOD from packaging contamination. Recommend FOD program be patterned from existing standards such as NAS412; AS9146; etc.

OUR SUCCESS IS ROOTED IN THE SUCCESS OF OUR SUPPLIERS!