

GENERAL DYNAMICS Ordnance and Tactical Systems	ST. PETERSBURG, FLORIDA		
	SUPPLIER QUALITY CLAUSE		
TITLE CRITICAL CHARACTERISTIC CONTROL PLAN AND CRITICAL PLAN OF ACTION	QUALITY CLAUSE <p style="text-align: center;">S15</p>	REVISION <p style="text-align: center;">0</p>	EFFECTIVE DATE <p style="text-align: center;">June 9, 2023</p>
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1.0 REFERENCES

- DI-MGMT-81986 (Latest revision unless specified otherwise): Critical Characteristics Control Plan
- DI-MGMT-81988 (Latest revision unless specified otherwise): Critical Item Characteristics List
- DI-MGMT-81989 (Latest revision unless specified otherwise): Critical Defect Investigation Report
- DI-MGMT-81996 (Latest revision unless specified otherwise): Critical Plan of Action
- DI-SAFT-81985 (Latest revision unless specified otherwise): Notification of Critical Non-Conformance Report
- Review Guide for Critical Characteristics Control Plan and Critical Plan of Action Per the Single Manager for Conventional Ammunition Critical Characteristics Contract Clause, Revision A with Amendment 1 dated October 07, 2015

2.0 REQUIREMENTS

2.1 CRITICAL CHARACTERISTIC CONTROL PLAN

The subcontractor's processes shall be designed with the objective of preventing the creation or occurrence of non-conforming critical characteristics. The subcontractor shall establish, document, and maintain a product specific, Critical Characteristic Control Plan (CCCP) that shall be submitted as Quality Clause Deliverable (QCD) S15-1, to and approved by General Dynamics Ordnance and Tactical Systems (GD-OTS) prior to production. The format and content of this CCCP shall be in accordance with DI-MGMT-81986. The CCCP shall include or reference all procedures, work and handling instructions and process controls relating to any critical characteristics. Mistake Proofing techniques shall be a part of the CCCP.

The subcontractor shall assure its critical processes are robust in design, capable and under control, with the objective of not generating any critical non-conformances. The subcontractor shall calculate, document, clearly identify, and have a schedule that routinely assess the reliability and effectiveness of its critical processes to prevent generating critical non-conformances as identified in the CCCP. GD-OTS expects that the subcontractor will allow zero critical escapes.

An inspection and verification system shall be employed that will verify the robustness of all critical processes.

2.2 CCCP ESCAPE RISK CALCULATION

The probability of escape per critical characteristic shall be calculated by multiplying the non-conformance rate(s) entering the inspection system(s) by the error rate of the inspection system(s). The data and calculation shall be submitted as QCD S15-2 to and approved by GD-OTS.

To demonstrate its critical escape risk the subcontractor will utilize the nonconformance escape risk goal and error rate provided in the special instructions.

If subcontractor is unable to meet the escape risk identified in the special instructions, the subcontractor shall submit a phased-in approach on how the non-conformance escape risk will be achieved over a period

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of time not to exceed 180 days from the date of First Article (FA) approval, or from initiation of production when FA is not required. Submission will require approval by GD-OTS and is subject to a technical review and analysis. Allowance for a phased-in approach will then become a part of the subcontract. Disapproval of the subcontractor's submission does not relieve the subcontractor of its obligation to comply with the terms of this requirement.

If a critical defect is detected, the subcontractor shall re-calculate the escape risk, document, and clearly identify root cause and implement preventative measures that would prevent the critical defect recurrence.

Based on the maximum error rate defined for the inspection system, the subcontractor shall develop a test procedure to demonstrate the error rate. As part of the test plan the subcontractor shall include sufficient test quantities to assure 90% statistical confidence in the resultant rates as defined by the GD-OTS Special Instruction. Once established, the subcontractor shall have a documented schedule to routinely monitor the non-conformance and inspection system error rates to assure they do not exceed the maximum rates allotted.

2.3 CRITICAL ITEM CONTROL LIST

In addition to critical characteristics defined in the technical data (drawings, specifications, etc.), the subcontractor shall also identify and document in its subcontractor developed technical data all known material, component, subassembly, and assembly characteristics whose non-conformances would likely result in hazardous or unsafe conditions for individuals using, maintaining, or depending upon the product. All additional critical characteristics identified by the subcontractor shall comply with the critical characteristic requirements of the technical data package, supplemented herein. The Critical Item Characteristic List (CICL) review process shall be included in the CCCP. The format and content of this CICL shall be in accordance with DI-MGMT-81988.

2.4 CRITICAL NON-CONFORMANCE

In the event a critical non-conformance is found anywhere in the production process, the subcontractor, as part of its CCCP, shall have procedures in place to ensure:

1. The non-conformance is positively identified and segregated to ensure that nonconforming product does not inadvertently remain in or reenter the production process. This control shall be accomplished without affecting or impairing subsequent non-conformance analysis. Final disposition of non-conforming product shall be documented and audited for traceability.
2. The operation that produced the non-conforming component or assembly and any other operations incorporating suspect components or assemblies are immediately stopped. Note: Exceptions may apply if an approved Critical Plan of Action (CPOA) is in place.
3. GD-OTS Subcontracts Representative (SCR), the GD-OTS Supplier Quality Engineer (SQE), and the Program Manager (PM) shall be immediately notified of the critical non-conformance via phone call and followed up with an email (QCD S15-4). The content of this email shall meet the requirements of DI-SAFT-81985 Notification of Critical Non-Conformance Report. It is strongly suggested that an

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email receipt confirmation is requested and received. If SCR, SQE, or PM does not answer the phone for immediate notification, follow the phone tree identified in the special instruction until verbal notification is provided.

4. Any suspect material must be identified, segregated, and suspended from any further processing and shipment.
5. An investigation must be conducted to determine the root cause of the non-conformance and the required corrective actions. An evaluation shall also be conducted with regard to suspect material to ensure that no additional critical non-conformances are present. A Critical Defect Investigation Report (CDIR) of this investigation shall be submitted as QCD S15-5 to GD-OTS in accordance with DI-MGMT-81989.
6. A request to restart manufacturing or to use any suspect material associated with the critical non-conformance shall be submitted as QCD 15-6 to GD-OTS in accordance with DI-MGMT-81989. Restart of production, or use of suspect material, shall not occur until authorized by GD-OTS.

If a critical non-conformance is discovered beyond its designated inspection point and prior to or after GD-OTS or United States Government (USG) acceptance, the subcontractor shall take actions as referenced in items 1-6 above. GD-OTS has the right to invoke the requirements of items 1-6 above with respect to the subcontractors remaining production under this contract.

2.5 CRITICAL PLAN OF ACTION (CPOA)

The subcontractor may develop alternative plans and provisions, collectively referred to as a CPOA, relative Technical Data Package List (TDPL) or subcontractor identified critical characteristics. GD-OTS strongly suggests that an evaluation of each critical characteristic be performed CPOA be submitted for each critical characteristic. A CPOA can be submitted at any time during the contract. However, unless otherwise approved by GD-OTS, a CPOA shall be submitted for each failed critical characteristic, after a critical defect occurs. All CPOAs are independent and shall be evaluated by GD-OTS for this subcontract. CPOA's and any subsequent revisions shall be submitted as QCD S15-3, to GD-OTS for review and approval prior to implementation. The format and content of the CPOA shall be in accordance with DI-MGMT-81996. Unless otherwise specified at time of approval, the subcontractor shall review and evaluate CPOAs for currency and process improvements at least on an annual basis and submit results to GD-OTS. If the CPOA includes other documents by reference, they shall be submitted upon request.

2.6 ADDITIONAL GUIDANCE

Guidance for developing the Critical Characteristic Control Plan and the Critical Plan of Action (CPOA) can be found at:

[https://ac.ccdc.army.mil/organizations/QESA/ files/CCCP & CPOA Review Guide Rev-A Amd 1 UNCLASSIFIED.PDF](https://ac.ccdc.army.mil/organizations/QESA/files/CCCP%20&%20CPOA%20Review%20Guide%20Rev-A%20Amd%201%20UNCLASSIFIED.PDF)

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3.0 QUALITY CLAUSE DELIVERABLES (QCD)

Microsoft Office or PDF formats are preferred. All subcontractor data submittals shall be in English. These data items shall be submitted to GD-OTS in accordance with the QCDs as indicated below. The method of submission to GD-OTS St. Petersburg is specified in the General Supplier Quality Clause "S1" located on GD-OTS's Supplier Portal <https://www.gd-ots.com/suppliers/quality-clauses/> under GD-OTS St. Petersburg, FL.

NO.	TITLE	GD-OTS APPROVAL REQUIRED	SUBMITTAL TIMING/FREQUENCY
S15-1	Critical Characteristic Control Plan	Yes	Unless otherwise directed in the Subcontract/PO or Special Instructions document provided by GD-OTS; QCD is due 60 calendar days after Subcontract/PO acceptance. This QCD shall also be resubmitted when revised.
S15-2	CCCP Escape Risk Calculation	Yes	Unless otherwise directed in the Subcontract/PO or Special Instructions document provided by GD-OTS; QCD is due 60 calendar days after Subcontract/PO acceptance. This QCD shall also be resubmitted annual, or when a critical defect occurs.
S15-3	Critical Plan of Action	Yes	Unless otherwise directed in the Subcontract/Purchase Order (PO) or Special Instructions document provided by GD-OTS; QCD is due 60 calendar days after Subcontract/PO acceptance. This QCD shall also be resubmitted annually as described in section 3.0 above.
S15-4	Notification of Critical Non-Conformance Report	No	Unless otherwise directed in the Subcontract/PO or Special Instructions document provided by GD-OTS; The subcontractor shall notify GD-OTS SCA SCR and/or the Quality Assurance Representative via email within 16 hours after a critical non-conformance is confirmed. This email notification shall be followed-up by an official written Critical Non-Conformance Notification Report QCD submission within 7 calendar days.

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NO.	TITLE	GD-OTS APPROVAL REQUIRED	SUBMITTAL TIMING/FREQUENCY
S15-5	Critical Defect Investigation Report	Yes	Unless otherwise directed in the Subcontract/PO or Special Instructions document provided by GD-OTS; QCD is due 14 calendar days after a critical non-conformance is confirmed by the subcontractor. Even if the critical defect investigation is ongoing and not complete, a preliminary report should be submitted to provide status of the investigation. Follow-up reports shall be submitted as required until the critical investigation is considered closed.
S15-6	Critical Defect Occurrence – Manufacturing Restart Request	Yes	Unless otherwise directed in the Subcontract/PO or Special Instructions document provided by GD-OTS; The subcontractor shall submit this QCD and obtain approval prior to restart of manufacturing.

4.0 REVISION HISTORY

REV	DATE	CHANGE
0	06/09/2023	ECN23315-Initial Release