

## DOCUMENT TEMPLATE QS-TP-10.7.9

### INSTRUCTIONS FOR THIS TEMPLATE

1. Assign a unique document number. (this number will be assigned by GD-OTS)
2. Complete the document in accordance with the requirements in your Purchase Order.
3. Fill in required information as instructed in the **Green Text**.
4. Attach required documents in the Appendices. Ensure these documents are complete.
5. **DELETE THIS PAGE** prior to routing for approval.
6. Ensure all green text is filled in properly (or deleted) and changed to black. Ensure all red text, if any, is deleted.

Review and approve the document prior to submitting it to GD-OTS. Ensure the document number, revision, and date are part of the file name.

File name will be in the following convention:

CDRL/DocumentNumber-ContractRef-ITER-PN-Description-(Rev)-Initials of Author-DDMONYR

Example:

X061-xxx- D0023-ITER-pn-descr---INI-DDMMYY.docx

*(NOTE: File Names must be under 64 characters long and cannot contain spaces or the following invalid characters: ~ " # % & \* : < > ? / \ + { | } due to SharePoint file naming requirements.)*

7. Submit the approved document through SharePoint.

#### **Report Format**

The preferred format for ITE Validation Report submissions is MS Word (Office 2007 or later, .docx version). Supporting documentation including Process Flow, Process Control Document, etc, may be embedded in the document. This template is to be used for ITE used to inspect characteristics classified as Special/Safety, Critical, or Major. Information on ITE used for Minor characteristics should also be included.

**Black** = Standard text. Minor edits are allowed – All sections are required.

**Green** = Replace with applicable information.

**REMOVE THIS PAGE PRIOR TO SUBMITTING TO GD-OTS**

Please refer to QS-GD-10.7.2 Plan and Report Completion Guide for more information on using this template.

**HYDRA-70 2.75-INCH ROCKET SYSTEM (HYDRA-70)**

**FY 20-24 PRODUCTION**

**TEST/INSPECTION REPORT**

**INSPECTION AND TEST EQUIPMENT (ITE) VALIDATION REPORT**

**COMPANY NAME**

**STREET, CITY, STATE, ZIP**

**VALIDATION OF INSPECTION & TEST EQUIPMENT FOR**

**PART NAME P/N XXXXXXXX <or use table for more than one part number>**

<b>PART NAME</b>	<b>PART NUMBER</b>
<b>PART NAME</b>	<b>PART NUMBER</b>

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## 1 INTRODUCTION

This Inspection and Test Equipment (ITE) Validation Report was created in accordance with (IAW) contract W31P4Q-20-D-0023, Statement of Work paragraph C-5.1.1.2.1 Inspection and Test Equipment. GD-OTS requires this ITE validation to ensure all ITE is capable of the required accuracy and precision for determining conformance to all technical and contractual requirements.

This document provides the test data to demonstrate the ITE used for conformance acceptance inspection of <Part Name> part number (P/N) <Part Number> as required by ITE Plan X060-XXX and in support of Baseline Qualification First Article Test (BQFAT)/First Article Test (FAT)/Tailored First Article Test (TFAT) Plan A0XX-XXX.

### 1.1 Test / Inspection Objectives

This report addresses the ITE used for conformance acceptance inspection of **Safety, Special, Critical, and Major Characteristics** as identified by the Technical Data Package (TDP). The goal of this validation was to ensure the ITE is capable of the required accuracy and precision for determining conformance to all technical and contractual requirements. This report includes the ITE for minor characteristics to document that this ITE is also capable.

### 1.2 Items Tested / Inspected

The ITE covered by this report resides at <insert the name and address of the company where the ITE is located>. Appendix A contains the completed Data Sheets created for the tests identified in ITE Validation Plan X060-###. <If ITE includes attribute gages and/or test equipment, keep this next sentence.> Additional description information for attribute gages and special test equipment is provided in Appendix D.

Where Standard Measuring Equipment (SME) such as calipers and micrometers are used, any one of several equivalent pieces of SME may be used in production. In these cases the words “or equivalent” will be found in the Description of Equipment column. Equivalent SME is defined as the same type of equipment with, at a minimum, the same or better resolution and accuracy.

## 2 APPLICABLE REFERENCE DOCUMENTS

Table I identifies the document baseline for this validation and any outstanding changes that may affect the configuration baseline.

Copy the Applicable Documents table from the ITE Validation Plan. Update as required.

**Table I. Applicable Documents**

DOCUMENT NUMBER	TITLE	REV.	NORs

### 3 TEST DESCRIPTION

The purpose of this validation effort was to verify the ITE is acceptable for accurately determining conformance to the applicable technical and contractual requirements. The calibration report was reviewed to verify all measurement equipment was calibrated. ITE accuracy analysis was completed based on manufacturer’s statements of accuracy and evaluated against the requirements of quality clause Q718 (Inspection and Test Equipment Validation Plans and Reports) and Q740 (Inspection and Test Measurement Guard Banding).

Table II identifies the ITE that required a Gage Repeatability and Reproducibility Study (R&R) The ITE items are <new, modified, or other condition(s) determined by GD-OTS>. The results of the R&Rs are included in Appendix C. Table IV summarizes the results of the Gage R&Rs.

Copy the Gage R&R table from the plan.

**Table II. Gage R&R Requirements**

Test No.	Part #	Category / Classification of Characteristic I.D. / Spec. Para.	Test/Inspection Description	Equipment	Attribute / Variable
1					
2					
3					
4					

### 4 TEST/INSPECTION FACILITY INSTALLATION AND SET-UP

The completed ITE data sheets in Appendix A identify the ITE that was validated, the method of validation, acceptance criteria for each validation, the related TDP characteristic, and additional information. The validation took place at <Insert the name and address of the facility where the ITE validation took place.>

### 5 TEST/INSPECTION RESULTS AND ANALYSIS

All validation documentation has been analyzed for acceptability and accept/reject decisions are included in Appendix A.

The following changes were redlined from the approved ITE Plan X060-###:

1. Change:  
Reason for Change:
  
2. Change:  
Reason for Change:

Copies of calibration reports and accuracy documentation are included in Appendix B.

All ITE, with the exception of the items listed in Table III, meets the requirements of Q-clause Q740 and SOW C-5.1.1.2.1.1, which requires inspection/test equipment shall be at least one significant digit to the right of the specification. This was determined by comparing the print tolerance and the accuracy columns in the Appendix A data sheets.

*<Delete following paragraph and table if not applicable.>*

Based on the print tolerance and the gage accuracy, Table III contains the guard banding approach recommended by GD-OTS for each piece of ITE that does not meet the requirements of Q-clause Q740 and SOW C-5.1.1.2.1.1.

**Table III. ITE Requiring Guard Banding**

Characteristic	ITE	Accuracy	Drawing Requirement	GD-OTS Proposed Guard Banding

**Gage R&R Studies:**

Gage R&R studies were performed for all ITE listed in Table IV. For variable gages, the precision-to-tolerance (P/T) ratio requirement is  $P/T \leq .25$  (25%) in accordance with Q-clause Q718. For the attribute gages, the R&R study is acceptable when the seven (7) “good” parts are accepted each time and the three (3) “bad” parts are rejected each time. All ITE met the requirements for an acceptable R&R study, *except xyz listed in Table III.*

**Table IV. R&R Study Results**

Test No.	Characteristic Classification	Equipment	ID#	Pass / Fail	P/T Ratio %

**6 SUMMARY, CONCLUSION AND RECOMMENDATION**

The test/inspections were performed in accordance with all listed test plan requirements with changes noted in Section 5. The results obtained are true and accurate. Supplier signatures and GD-OTS witness signatures are included in the report. *<If there were no Government witnesses, note:> No Government witnesses were in attendance.*

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The results demonstrate the ITE used for conformance acceptance inspection of <part description> P/N <part number>, with the guard banding as noted in Table III, meets all validation requirements. GD-OTS approves this test report to use the ITE at <insert the name and address of the facility at which the ITE is to be used>.

**Figure 1. Left for ease of formatting, delete if not needed.**



**Appendix A: ITE MTL Data Sheets**

Number	Description	File
A1	<i>&lt;Include ITE for Minors in the MTL or add a separate MTL for the Minors.&gt;</i>	

**Appendix B: ITE Calibration and Accuracy Documents**

Number	Description	File
B1		

**Appendix C: Gage R&R Data Sheets**

Number	Description	File
C1	<i>&lt;Include the R&amp;R protocol sheet with the data sheets.&gt;</i>	

**Appendix D: ITE Descriptions**

Number	Description	File
D1	<i>&lt;Copy the ITE Description file from the plan, if applicable.&gt;</i>	