

## RSUD Quality Clause List

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### Signatures & Approval

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**TABLE OF CONTENTS**

**1 INTRODUCTION..... 5**

1.1 Purpose of the Document..... 5

1.2 Scope of the Document..... 5

1.3 Order of Precedence ..... 5

**2 APPLICABLE AND REFERENCE DOCUMENTS ..... 5**

2.1 Applicable Documents..... 5

2.2 Reference Documents..... 6

**3 DEFINITIONS AND ABBREVIATIONS..... 6**

**4 LIST OF QUALITY ASSURANCE CLAUSES..... 7**

4.1 Acceptance ..... 7

4.2 Certificates ..... 7

4.3 Inspection and Testing ..... 9

4.4 Packaging and Shipping..... 9

4.5 Handling..... 10

4.6 Age Control ..... 11

4.7 Nonconformance ..... 11

4.8 Design and Manufacturing..... 12

4.9 Miscellaneous ..... 12

4.10 Quality System ..... 13

**TABLE OF TABLES**

Table 2-1 Applicable Documents ..... 5

Table 2-2 Reference Documents ..... 6

Table 4-1 List of Quality Assurance Clauses..... 14

## 1 INTRODUCTION

### 1.1 Purpose of the Document

All products and / or services furnished hereunder are subject to the General Provisions of the corresponding Contract or Purchase Order and the following Special Provisions Quality Assurance Clause(s) when indicated by the Quality Clause Code(s).

### 1.2 Scope of the Document

This is the complete list of Quality Assurance Clauses of RUAG Space USA, Inc.

### 1.3 Order of Precedence

- (1) Contract or Purchase Order
- (2) This document

## 2 APPLICABLE AND REFERENCE DOCUMENTS

### 2.1 Applicable Documents

The following documents of the exact issue and/or revision shown form a part of this document to the extent specified herein. Where no issue is shown the latest issue is applicable.

Ref	Description	Doc. Number	Issue
[AD01]	Quality Systems-Model for Quality Assurance in Design, Development, Production, Installation, and Servicing	ISO 9001	-
[AD02]	Model for Quality Assurance in Design/Development, Production, Installation, and Servicing	SAE AS9100	-
[AD03]	Inspection and Test Quality System	SAE AS9003	-
[AD04]	Aerospace First Article Inspection Requirement	SAE AS9102	
[AD05]	Requirements for the Calibration of Measuring and Test Equipment	NCSL/ANSI Z540.3	
[AD06]	For the Development of an Electrostatic Discharge Control Program for – Protection of Electrical and Electronic Parts, Assemblies and Equipment (Excluding Electrically Initiated Explosive Devices)	ANSI/ESD S20.20-2014	

**Table 2-1 Applicable Documents**

## 2.2 Reference Documents

The following documents are for reference and/or guideline only.

Ref	Description	Doc. Number	Issue
[RD01]			
[RD02]	-	-	-
[RD03]	-	-	-

**Table 2-2 Reference Documents**

## 3 DEFINITIONS AND ABBREVIATIONS

“Work” means any material, product, service or deliverable information as defined in the Contract or Purchase Order.

AD	Applicable Document
CCCP	Cleanliness and Contamination Control Plan
DRB	Delivery Review Board
ESD	Electrostatic Discharge
FAI(R)	First Article Inspection (Report)
FOD	Foreign Object Debris/Damage
FOE	Foreign Object Elimination
MRB	Material Review Board
MSDS	Material Safety Data Sheet
NDT	Nondestructive Testing
PMP	Parts, Materials, and Processes
RD	Reference Document
RSU	RUAG Space USA
RSUD	RUAG Space USA, Decatur
ULA	United Launch Alliance
EIDP	End Item Data Package

## 4 LIST OF QUALITY ASSURANCE CLAUSES

### 4.1 Acceptance

QCC-Number	Short Title	Quality Assurance Clause Description
QCC101	Acceptance at buyer's premises	Work ordered under this contract is subject to final acceptance at RSUD's facility.
QCC102	Source acceptance	Work ordered under this contract is subject to final acceptance by RSUD at the contractor's facility.
QCC103	First Article Inspection (FAI)	Work ordered under this contract is subject to First Article Inspection. The contractor is required to submit a First Article Inspection Report (FAIR) in accordance with [AD04].
QCC104	Acceptance Test Procedures and Report	Work ordered under this contract is subject to acceptance tests. The contractor shall submit for review and approval corresponding test procedures. After the tests the corresponding test report, issued by the contractor, shall be submitted for review.
QCC105	Delivery Review Board (DRB)	Work ordered under this contract is subject to a formal delivery review. The contractor shall convene, prior to any preparation for shipment, a formal Delivery Review Board with RSUD. RSUD shall be notified at least ten working days in advance of the desired date.
QCC106	End Item Data Package (EIDP)	Work ordered under this contract requires a comprehensive amount of documentation. The contractor shall prepare and deliver a complete End Item Data Package. The content of the EIDP will be defined by RSUD.
QCC107	Logbook	Work ordered under this contract requires the contractor to maintain a logbook. The contractor shall prepare and deliver a complete logbook. The content of the logbook will be defined by RSUD.
QCC108	Qualification Test and Report	Work ordered under this contract is subject to Qualification tests. The contractor shall submit for review and approval the pre-production manufacturing, inspection, integration, and test plans. After the tests the corresponding test report, issued by the contractor, shall be submitted for review.

### 4.2 Certificates

QCC-Number	Short Title	Quality Assurance Clause Description
QCC201	General Certificate of Conformance (CoC)	Work ordered under this contract requires a certificate of conformance. The contractor shall submit with each shipment a Certificate of

		<p>Conformance to attest that all the Work ordered conforms to the contractual requirements.</p> <p>The CoC shall be signed, with title, and dated by an authorized contractor representative.</p> <p>Each CoC shall include at least the following information:</p> <ol style="list-style-type: none"> <li>1) Name and Address of Manufacturer</li> <li>2) Contract number</li> <li>3) Part number including revision level and part title</li> <li>4) Quantity</li> <li>5) Manufacturer's lot, heat, batch, date code, and/or serial number (if applicable)</li> <li>6) Indicate if a part of the Work is RSUD furnished.</li> </ol>
QCC202	Certificate of Conformance (CoC) including RSUD furnished material	<p>Work ordered under this contract contains RSUD furnished material.</p> <p>The contractor shall submit with each shipment a CoC stating that the Work furnished is in conformance with contractual requirements, and that RSUD furnished material was used in the manufacture of the product.</p> <p>The CoC shall further state that no material substitutions and/or process deviations have been made without RSUD's written authorization. Substitutions and/or deviations shall be clearly defined.</p> <p>The CoC shall be signed, with title, and dated by an authorized contractor representative.</p> <p>The furnished material shall always be labelled as such and separated from other material.</p>
QCC203	Certificate of Conformance (CoC) for Fasteners	<p>Work ordered under this contract contains high-strength fasteners.</p> <p>Contractor shall submit with each shipment a Certificate of Conformance to attest that the fasteners and all associated processes conform to the specification requirements. The original product documentation shall accompany the CoC.</p> <p>The CoC shall be signed, with title, and dated by an authorized contractor representative.</p>
QCC204	Certificate of Conformance (CoC) for Parts, Materials, and Processes (PMP)	<p>Work ordered under this contract requires a certificate concerning parts, materials and processes (PMP).</p> <p>The contractor shall submit with each shipment a CoC stating that the PMP furnished and/or used to manufacture the deliverable item are in conformance with contractual requirements.</p> <p>The CoC shall be signed, with title, and dated by an authorized contractor representative.</p>
QCC205	Certificate of Conformance (CoC) for Testing	<p>Work ordered under this contract requires a certificate concerning the testing activities.</p> <p>The contractor shall submit with each shipment a CoC stating that the Work ordered has been tested in conformance with contractual requirements.</p> <p>The CoC shall be signed, with title, and dated by an authorized</p>



		contractor representative.
QCC206	Certificate of Conformance (CoC) for Special Process Approval	Work ordered under this contract requires a certificate of conformance concerning Special Processes. The contractor and/or his subcontract source including the intended processes to be applied must be approved by RSUD <u>prior</u> of process performance.

### 4.3 Inspection and Testing

QCC-Number	Short Title	Quality Assurance Clause Description
QCC301	Inspection Control Plan	Work ordered under this contract requires the contractor to do quality conformance inspections on various levels of assembly. The contractor shall submit a dedicated inspection control plan for review and approval by RSUD.
QCC302	Inspection / Test Report	Work ordered under this contract requires the contractor to do mechanical and/or electrical measurements. The contractor shall submit either a dedicated inspection / test report summarizing all inspection / test results or shall submit the individual inspection / test documentation. Each documented result shall be traceable to the individual part and the characteristics inspected and/or measured. The measurement equipment used incl. serial number and calibration validity shall be documented. The name and address of the test laboratory or the test performer shall be documented. The report shall be signed, with title, and dated by an authorized contractor representative.

### 4.4 Packaging and Shipping

QCC-Number	Short Title	Quality Assurance Clause Description
QCC401	General packaging and shipping requirements	Work ordered under this contract requires careful packaging and shipping. The contractor shall pack deliverables in such a way that transport damage will be prevented. Product and package shall be marked in accordance with RSUD instructions. Packing materials shall not have a detrimental effect on the item packed. Applicable packing and transport laws and regulations must be observed. The contractor is liable for any breach of applicable

		<p>regulations.</p> <p>Unless otherwise agreed, the delivery shall be DAP (delivered at place) RSUD's address according to INCOTERMS 2010. Each consignment must be accompanied by a dispatch note indicating the relevant purchase order number.</p>
QCC402	Electrostatic Discharge (ESD) Protection	<p>Work ordered under this contract contains items sensitive against electrostatic discharge.</p> <p>The contractor shall pack deliverables protected against the detrimental effects of electrostatic discharge. ESD sensitivity shall be clearly marked by corresponding ESD-labels.</p>
QCC403	Special packing and / or unpacking procedure / requirements	<p>Work ordered under this contract contains items sensitive against inappropriate handling.</p> <p>The contractor shall issue a dedicated unpacking procedure.</p> <p>Details concerning possible hazards, lifting and handling points, use of personnel protection equipment, possible contamination, etc. shall be clearly defined.</p>
QCC404	Electrostatic Discharge (ESD) Protection (Non-ESD)	<p>Work ordered under this contract is <u>not</u> considered sensitive against electrostatic discharge.</p> <p>However, Work will be associated with ESD sensitive items in the stocking and manufacturing processes where static generating packaging materials are forbidden.</p> <p>The contractor shall pack deliverables protected against the detrimental effects of electrostatic discharge. ESD sensitivity shall be clearly marked by corresponding ESD-labels.</p>

#### 4.5 Handling

QCC-Number	Short Title	Quality Assurance Clause Description
QCC501	Electrostatic Discharge (ESD) Protection Program	<p>Work ordered under this contract requires the contractor to implement and maintain a documented electrostatic discharge protection program.</p> <p>The contractor shall issue a dedicated program which is compliant with national standards.</p> <p>Contractor shall train operators accordingly <u>prior</u> to do any Work.</p>
QCC502	Foreign Object Elimination (FOE) Program	<p>Work ordered under this contract requires the contractor to implement and maintain a documented cleanliness and contamination control program.</p> <p>The contractor shall issue a dedicated program which is compliant with national standards.</p> <p>Contractor shall train operators accordingly <u>prior</u> to do any Work.</p> <p>Prior to closing inaccessible or obscured areas and compartments during assembly, the contractor shall inspect Foreign Object Damage (FOD) Sensitive Products thoroughly for foreign objects/materials.</p>

#### 4.6 Age Control

QCC-Number	Short Title	Quality Assurance Clause Description
QCC601	Limited Shelf Life	Work ordered under this contract contains items with limited shelf life. The contractor shall define the conditions to be monitored, document it in the shipping documentation, and clearly mark the item with the expiration date.
QCC602	Limited Operating Life	Work ordered under this contract contains items with limited operating life. The contractor shall define the conditions to be monitored and controlled, e.g. number of operating hours, number of mating/unmating cycles, etc. The defined conditions must be documented in the shipping documentation and must be clearly marked on the outer most shipping container.
QCC603	Environmental Storage Condition Control	Work ordered under this contract contains items sensitive against environmental storage conditions. The contractor shall define the conditions to be monitored and controlled, e.g. time, temperature, humidity, shock and vibration, etc. The defined conditions must be documented in the shipping documentation and must be clearly marked on the outer most shipping container.

#### 4.7 Nonconformance

QCC-Number	Short Title	Quality Assurance Clause Description
QCC701	Material Review Board (MRB) Authority	Work ordered under this contract may require the disposition of nonconformances. Nonconformances to contractor controlled features, characteristics, and parameters that do <b>NOT</b> result in failures to completely meet RSUD specification requirements may be dispositioned in accordance with contractor's quality management system for the control of nonconforming goods. RSUD does <b>NOT</b> delegate Material Review Board (MRB) authority to contractor or its suppliers relative to permanent nonconformances of features, characteristics, or parameters that are controlled by RSUD's specifications. Every non-conformance shall be properly documented by the contractor and presented to RSUD within two working days.
QCC702	Failure Analysis Report	Work ordered under this contract may require the analysis of nonconformances. Any nonconformance shall be documented in a failure analysis report;

		and reviewed with RSUD quality.
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#### 4.8 Design and Manufacturing

QCC-Number	Short Title	Quality Assurance Clause Description
QCC801	Design Review	<p>Work ordered under this contract requires the contractor to perform a formal Design Review for RSUD. Design continuation is subject to a formal approval of RSUD.</p> <p>Whether a Preliminary Design Review (PDR) or a Critical Design Review (CDR) or both reviews are necessary is subject to mutual agreement between RSUD and the contractor.</p>
QCC802	Manufacturing Readiness Review (MRR)	<p>Work ordered under this contract requires the contractor to perform a formal Manufacturing Readiness Review for RSUD.</p> <p>Release of manufacturing is subject to formal approval of RSUD.</p>
QCC803	Notification of Changes	<p>Work ordered under this contract may require design and/or process changes.</p> <p>After design and/or manufacturing release, the contractor shall provide to RSUD a formal Request For Change (RFC), for any change(s) to tooling, facilities, materials or processes at the contractor or its sub-tier that will likely affect the form, fit, or function of RSUD's contracted product.</p> <p>This includes, but is not limited to, changes in fabrication, assembly, handling, testing, facility location, or introduction of a new Subcontractor.</p>
QCC804	Work Instructions	<p>Work ordered under this contract requires the use of detailed work instructions.</p> <p>The contractor shall plan, document and implement appropriate work instructions.</p> <p>The instructions shall be detailed enough to assure work is accomplished in a defined and univocal manner; clear pass and fail criteria shall be available. Graphical examples or photographs or workmanship standards are preferred over lengthy text.</p>

#### 4.9 Miscellaneous

QCC-Number	Short Title	Quality Assurance Clause Description
QCC901	Nondeliverable Software	<p>Work ordered under this contract may require the use of software.</p> <p>The contractor shall plan, develop, and implement those practices and procedures that are necessary to assure compliance with the following requirements for hardware designed, manufactured, tested, supported,</p>

		<p>or operated by software.</p> <p>The contractor shall provide controls and traceability to ensure that different software program versions are accurately identified and documented, that no unauthorized modifications are made, that all approved modifications are properly documented and incorporated, and that software used for testing is the proper version.</p> <p>The contractor shall maintain traceability between hardware and software used.</p>
QCC902	Serialization	<p>Work ordered under this contract requires serialization.</p> <p>The contractor shall plan, document and implement item serialization.</p> <p>Unless otherwise defined, permanent marking of the items is preferred.</p>
QCC903	Single Lot or Date Code	<p>Work ordered under this contract requires lot/batch identification.</p> <p>The contractor shall plan, document and implement that all items delivered belong to the same lot or batch.</p> <p>Unless otherwise defined, permanent marking of the items with a lot/batch number or date code is preferred.</p>
QCC904	Special Labeling	<p>Work ordered under this contract requires special identification.</p> <p>The contractor shall plan, document and implement that all items delivered bear the appropriate label, e.g. perishable good, open in cleanroom only, do not stockpile, etc.</p>
QCC905	Material Safety Data Sheet (MSDS)	<p>Work ordered under this contract may require the use of hazardous substances.</p> <p>The contractor shall submit the necessary MSDS with each shipment.</p> <p>Contractor shall submit the proper shipping classification, and information necessary to properly ship the Work in compliance with applicable laws and regulations.</p>

#### 4.10 Quality System

QCC-Number	Short Title	Quality Assurance Clause Description
QCC1001	ISO 9001	<p>Work ordered under this contract requires the contractor to have a general Quality Management System (QMS).</p> <p>Contractor shall have, at the least, a QMS conforming to the requirements of the elements described in ISO 9001.</p> <p>Based on the Work ordered it may be acceptable that the contractor has a QMS with <u>exclusions</u>; all exclusions must be clearly defined, e.g. contractor providing engineering services, but has no manufacturing department or vice versa.</p> <p>Contractor declaring system compliance to ISO 9001 with no formal accredited registrar will be reviewed by RSUD.</p>
QCC1002	SAE AS9100	<p>Work ordered under this contract requires the contractor to have a Quality Management System (QMS) approved for Aviation, Space, and</p>

		<p>Defense organizations.</p> <p>Contractor shall have, at the least, a QMS conforming to the requirements of the elements described in AS9100.</p> <p>Based on the Work ordered it may be acceptable that the contractor has a QMS with <u>exclusions</u>; all exclusions must be clearly defined, e.g contractor providing engineering services, but has no manufacturing department or vice versa.</p> <p>Contractor declaring system compliance to AS9100 with no formal accredited registrar will be reviewed by RSUD.</p>
QCC1003	ISO 17025	<p>Work ordered under this contract requires the contractor to have a service provider for materials testing and / or measurement equipment calibration certified to ISO 17025.</p> <p>Contractor declaring system compliance to ISO 17025 with no formal accredited registrar will be reviewed by RSUD.</p>
QCC1004	Right of Access	<p>Work ordered under this contract may require inspections and/or audits by RSUD at the contractors facilities.</p> <p>The contractor shall grant the right of access to RSUD, to the customer of RSUD, and to regulatory authorities to the applicable areas of facilities and to applicable documented information with respect to the work ordered under this contract, at any level of the supply chain; RSUD shall notify the contractor at least five working days in advance of the desired visit date.</p> <p>The right of access granted by the contractor shall include the contractor's subcontractors.</p>

**Table 4-1 List of Quality Assurance Clauses**