

AR1: Quality Management Systems - Requirements for Aviation, Space and Defense Organizations (AS9100) and General Requirements**TABLE OF CONTENTS**

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AR1: Quality Management Systems - Requirements for Aviation, Space and Defense Organizations (AS9100) and General Requirements**1. Quality Management System (QMS)**

During the performance of this Contract/Purchase Order (C/PO), the seller shall be certified / registered to the Quality Management Systems - Aerospace - Requirements of AS/EN/JISQ 9100.

Supplier Certificate(s) of Registration must be issued by a Certification Registration Body (CRB). The CRB must be accredited under the control of the International Aerospace Quality Group (IAQG) certification/registration schemes, as recognized by the Aerospace Standard SAE AS 9104-1. Reference the IAQG OASIS website for a listing of accredited CRBs.

Note: Suppliers will need to register on the IAQG website and receive a password in order to view the list of accredited CRBs. WWW.IAQG.ORG/OASIS

When compliance to a required QMS standard is evidenced by a current third party certification, the listing in the IAQG OASIS database shall be basis for approval. Copies of certifications shall be furnished to Aerojet Rocketdyne Buyer whenever they are renewed or changed. Any loss or change of certification (revoked, suspended, expired or cancelled) or 3rd party major findings shall be immediately reported to Aerojet Rocketdyne in writing. (Reference Paragraph 2.c below).

Send email notification to: SQA@Rocket.com

Suppliers shall permit Aerojet Rocketdyne access to all data in OASIS and Nadcap special process databases including registration documentation, certification, audit reports, findings, corrective actions, etc.

Aerojet Rocketdyne reserves the right to input significant and/or frequent escape data and major audit findings regarding suppliers into the relevant OASIS data base records for those Suppliers.

The buyer has the right to conduct AS9100 quality system/process assessments (audits) at seller's facility as required.

Any questions relative to the Quality Requirements in this document, other Quality Clause Provisions, or Aerojet Rocketdyne Supplier Quality Assurance (SQA) activities described in this order can be directed to: SQA@Rocket.com. Include in your email the Aerojet Rocketdyne Purchase Order number, Aerojet Rocketdyne Purchase Order issuing or originating site/location, and the delivery location.

2. General Requirements**a. Purchase Order Requirements and Quality Provision Clauses**

Failure to comply or partial compliance with any clause specified by the purchase order and included Quality Clauses shall be cause for rejection and return of the item(s). Verbal agreements or instructions shall under no circumstances be construed as approval or authorization to proceed. Unless otherwise specified, drawings, specifications, standards, and document listings shall be the issue currently in effect on the date of the Purchase Order. Drawings and specifications listed on or part of this procurement shall have precedence over Quality Clauses. The supplier shall flow down to sub-tier suppliers all applicable requirements in the purchasing documents, including classified characteristics if so identified.

AR1: Quality Management Systems - Requirements for Aviation, Space and Defense Organizations (AS9100) and General Requirements**b. Right of Entry and Inspection:**

Aerojet Rocketdyne and Aerojet Rocketdyne's customer and/or government representatives reserve the right to assign representatives for any purpose including verifying all tests and/or inspections performed as a part of the terms and conditions of this purchase order(s). These representatives may be on an itinerant or resident basis at the Supplier's facility or those of lower-tier suppliers. Suppliers are required to provide Aerojet Rocketdyne representatives and Aerojet Rocketdyne's customer and/or government representatives with reasonable facilities and equipment and access to all areas essential to complete this task throughout all periods of performance under this purchase order(s).

c. Information Request/Submission/Notifications:

Request for changes, drawing clarification, use of an alternate method and/or submittal of Process Control Plans, First Article Inspection Reports (FAIRs), sampling plans, etc. should be communicated to the Authorized Aerojet Rocketdyne Supply Chain representative (Buyer or Subcontract Manager on your contract) in writing using one of the methods defined below. These requests can only be answered or approved by the Authorized Aerojet Rocketdyne Supply Chain representative in writing.

1. For Purchase Orders supporting Camden, Orange, Sacramento/Socorro the [Supplier Submittal Request \(SSR\) Form QMA-F-07.06.20.001](#) will be submitted to the Aerojet Rocketdyne Purchasing Department.
2. For Purchase Orders supporting Redmond Washington site, email the buyer.
3. For Purchase Orders supporting Desoto (Chatsworth), Stennis or West Palm Beach, submittals will use [QMA-F-7.08.06.38.13, Supplier Request for Information](#).

For non-conformance submittals, refer to section 2.h below.

d. Change Management:

Except for first time purchases, items furnished under this Purchase Order shall be identical in configuration, form, fit, function, and performance to the product previously approved by Aerojet Rocketdyne.

The supplier shall notify Aerojet Rocketdyne no less than 30 days in advance of any proposed changes including changes in design, materials, COTS and source controlled items OCM/OEM, fabrication methods or processes, major plant rearrangement, or plant relocation and changes that will or could impact the item's configuration, form, fit, function, or performance. Any change notification will include a statement assessing the impact of the change on any of these characteristics or features of the items being supplied and proposed action or plan to validate the impact stated. Any such changes must be approved prior to delivery of items affected by or addressed in the notification. Change Notifications will be submitted as described in paragraph 2.c above.

e. Lot Control/Material Traceability:

The Supplier shall maintain a system that assures full traceability to the material/manufacturing lot and/or any applicable requirements imposed by listed drawing or specification standards. The Supplier shall maintain records that provide lot/batch traceability/batch control number for each shipment. Materials used must be traceable to the manufacturer's records of acceptance and identified by applicable lot number, date code, material type, specification, applicable change letter or number, heat number, etc. In cases where raw material is modified by the supplier (i.e. cut to length, rough machined, etc.), in a way where original markings can't be verified, the supplier shall mark the material or the package which contains the material in accordance with this requirement.

The Supplier shall make all possible efforts to minimize the number of lot/date codes included in each shipment. If multiple lots must be used, each lot shall be segregated for packaging and shipment to Aerojet Rocketdyne.

This document is an integral part of the contract (purchase order) in which referenced.
Applicable Revision: The revision in effect at the time the purchase order is placed.

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Where Aerojet Rocketdyne owns the design of an article purchased from a supplier (first-tier) who further subcontracts all or portions of that work to other subcontractors (second-tier), the first-tier supplier's purchase order must state that the articles are "for Aerojet Rocketdyne end use" and assure that all applicable requirements are flowed down.

f. Calibration System Requirements:

The Supplier shall maintain a calibration system that complies with one of the following specifications (or an equivalent): ANSI Z540.1 or ISO/IEC 17025. This provision shall be applicable to all inspection, test and measuring equipment used by the supplier or supplied by Aerojet Rocketdyne for inspection or test. All test equipment and gages used must be traceable to NIST standards.

g. Foreign Object Elimination:

Supplier shall take steps to mitigate contamination by foreign objects/debris throughout the manufacture, assembly, test and shipping processes. The Supplier will document, investigate, determine root cause, and eliminate repetitive nonconformances related to Foreign Object Debris (FOD) incidents. In addition, packaging materials will be taken into consideration when mitigating FOD; packaging materials that generate particles, fibers, or other debris are not acceptable. Specification NAS 412 is recommended to be used as a guide for FOD programs.

h. Nonconforming Product:

NONCONFORMING ITEMS SHALL NOT BE SHIPPED UNLESS AUTHORIZED IN WRITING BY THE AEROJET ROCKETDYNE BUYER.

Aerojet Rocketdyne reserves the right to return, at the Supplier's expense, any or all of a lot in which nonconforming parts have been found at any time.

Rework is considered the return to conformance of a nonconforming feature or item using original instructions and processes. Nonconforming items that result in rework beyond existing instructions, requires written rework instructions and those rework instructions will capture the results of the rework. Rework documentation shall be made available for Aerojet Rocketdyne review upon request. This requirement shall be flowed down to all sub-tier suppliers. Under no circumstance shall a repair (the use of different methods, materials or processes to correct a nonconformance) be permitted without prior Aerojet Rocketdyne approval.

A nonconformance that cannot be returned to conformance as stated above **may** be submitted to Aerojet Rocketdyne for consideration (as directed below) but is not a guarantee for acceptance:

- For Aerojet Rocketdyne Purchase orders supporting Camden, Orange sites, the nonconforming condition will be communicated using the [Supplier Submittal Request \(SSR\)](#) Form.
- For Aerojet Rocketdyne purchase orders supporting Desoto (Chatsworth), Redmond, Sacramento/Socorro, Stennis and West Palm Beach the supplier shall utilize the Rocketdyne [Supplier Portal Gateway](#) in accordance with the purchase order instructions.
 - Submission is **NOT** acceptance; suppliers must receive approval in writing or approval via the Supplier Portal before shipment. The acceptance of a nonconforming item shall not be considered a precedent for future actions. Copies of all Aerojet Rocketdyne approved nonconformances shall accompany the shipment of nonconforming items.

AR1: Quality Management Systems - Requirements for Aviation, Space and Defense Organizations (AS9100) and General Requirements**i. Material Review Board Authority (MRB):**

MRB AUTHORITY IS NOT GRANTED UNLESS SPECIFICALLY AUTHORIZED IN WRITING BY THE AEROJET ROCKETDYNE BUYER.

The Material Review Board is a panel of technically qualified individuals appointed for the purpose of reviewing, evaluating and determining (or recommending) disposition of non-conformances to defined engineering requirements. IF allowed, the authority for nonconformance dispositions is delegated on the purchase order unless the material for the order is supplied by Aerojet Rocketdyne.

Authority for a disposition of "Repair" and/or "Use-As-Is" dispositions shall come from the Aerojet Rocketdyne Material Review Board.

j. Requests for Corrective Action:

The supplier shall respond to Aerojet Rocketdyne requests for corrective action. The supplier's response to any such request shall be within the requested response time, usually 30 days and **must** include the root cause of the problem, the statement of the action taken to preclude a recurrence, and the effectivity of the action.

k. Measurement of Product/First Article Inspection/Sampling

First Article Inspections (FAI) shall be performed in accordance with SAE AS9102. The Supplier holding the Aerojet Rocketdyne purchase order is responsible for assuring completion of the FAI Report for all finished part characteristics generated by sub-tier suppliers. For product releases subsequent to FAI, statistical sampling or the use of an operator certification program or other special manufacturing methodologies (e.g. manufacturing controlling features, die/mold control, method of manufacturing, etc.) must be approved by Aerojet Rocketdyne. (Reference: paragraph 2.c. above) Otherwise, 100% inspection is required.

Approved Sampling Process - Suppliers demonstrating high performance levels of quality may become candidates for sampling approval. Supplier identifies a part that is being produced with automated equipment and is demonstrating low variation characteristics and submits request per paragraph 2.c above.

3. Sources of Supply: OCM/OEM Sources / Qualified Products List (QPL):

All Original Component Manufacturer (OCM)/Original Equipment Manufacturer (OEM) materials used in this order must have been procured by the Supplier from either the original / approved manufacturer or an authorized distributor of the manufacturer. In the case of raw materials (such as metal sheet, bar or tube, and similar items) distributors do not necessarily need to be "Authorized" but there must be traceability and documentation back to the original manufacturer of the material. Any items that have not been procured by the supplier per this requirement must have a statement by the Aerojet Rocketdyne Buyer explaining and allowing the deviation from this requirement prior to delivery of the item(s) to Aerojet Rocketdyne. When the design requirements include QPL items, traceability to the required qualified listed supplier must be included.

4. Special Process Sources:

Special Processes sources used (at any level) as defined on Aerojet Rocketdyne drawings or in Aerojet Rocketdyne design information, shall be performed by Aerojet Rocketdyne approved processors as noted in [Supplier Portal Gateway](#) or have a Nadcap accreditation for the special process. Refer to Quality Clause Q019 for detail requirements.

AR1: Quality Management Systems - Requirements for Aviation, Space and Defense Organizations (AS9100) and General Requirements**5. Documentation Requirements:****a. Certificates of Conformance (C of C):**

The Supplier shall provide with each shipment a legible Certificate of Conformance which states that the items were produced, processed, and/or tested in accordance with stated applicable purchase order or subcontract requirements. Certifications shall be signed by a company Quality Assurance Representative or Responsible Company Official. The following information is required on the certification at a minimum (Reference Figure 1 – This Form is provided for the Supplier's use and also as a guide or template. The Supplier's Certificate of Conformance is acceptable provided all applicable information is included.).

1. Purchase Order Number, Item Number
2. Aerojet Rocketdyne part number (including revision), and Lot, Manufacturing Order, or Batch Number if applicable.
3. Supplier Name, address and contact information and manufacturer's name (if different from Supplier) if applicable or be traceable to other supplied documents
4. Specification Number (including revisions and amendments)
5. Serial numbers of Serialized Parts must appear on or be linked to the C of C.

The Certificate of Conformance shall provide a link (via the Supplier's internal job number, work order number, or other identifier) to all documentation for this product. The Certificate must include the manufacturer's certification or complete traceability from the original authorized manufacturer for the product(s) shipped.

Aerojet Rocketdyne Supplied Material: If Buyer supplied materials/parts were used in performance of Buyer's purchase order, the Seller shall include reference to the Aerojet Rocketdyne Furnished Material Transmittal number or other traceability to Aerojet Rocketdyne's acceptance provided on the C of C.

b. Document Legibility:

The content of all documentation submitted, including signatures, stamps and dates, *must* be permanent, legible, and reproducible. Documents requiring corrections shall comply with the following requirements:

1. Each error *must* be lined through once.
2. The correct information *must* be entered near the error.
3. All corrections must be made in ink.
4. Each entry *must* be initialed and/or stamped and dated.
5. Use of correction tape/fluid is prohibited.

AR1: Quality Management Systems - Requirements for Aviation, Space and Defense Organizations (AS9100) and General Requirements**c. Additional Data Submittal Requirements (Acceptance Data Package):**

When the Purchase Order requires any additional supporting data or information in addition to the C of C, that documentation will be referenced on and/or attached to the Certificate of Conformance. For example:

1. Other Certificate of Conformances
2. Any SSRs or Other evidence of Aerojet Rocketdyne approved nonconformances, waivers, or deviations (Reference: Paragraph 2.h above)
3. Raw Material Certifications including chemical and physical tests results and mill certifications.
4. Special Process Certifications and any Aerojet Rocketdyne approvals (SSRs). The Supplier shall provide a certification to each of the special processes performed on the delivered hardware.
5. Inspection/ Verification Data
6. Acceptance Test Data
7. As-Built Configuration List
8. Any additional certifications or approval requirement contained in the Purchase Order

d. Electronic Signatures:

Electronic signatures and dates on Supplier-submitted documentation are acceptable when the Supplier has a procedure / process to control the use of passwords or programs for the application of electronic signatures.

e. Record Retention:

All records associated with items on this order (material test reports and certifications, inspections and test reports, process certifications and results, non-conformances with dispositions, etc.) supporting the items conformance to the item's design and specification requirements must be retained by the supplier. Records shall be maintained for the retention period in a manner that prevents damage from fire, moisture, pests, power interruption or any other deteriorating effects. Legible and reproducible electronic copies of records are acceptable. Written approval from the Aerojet Rocketdyne buyer must be obtained prior to destroying any records associated with this contract.

6. Military Specification Cancellation:

DoD Acquisition Reform has resulted in the obsoleting or cancellation of some military specifications, and in some cases no replacements are noted. In some cases the obsolete specification is not for new designs but is still valid for existing applications. Aerojet Rocketdyne encourages its suppliers to request approval for use of alternate specifications that replace cancelled specifications. If a cancelled specification lists an alternate, please notify Aerojet Rocketdyne Buyer of alternate specification use.

7. Material Requirements / Obsolescence Management:

The supplier shall monitor the life cycle status and availability of parts and/or materials through the duration of the contract. Parts/material determined to be unavailable or identified as "unavailable for new designs" shall be reported to the buyer within seven working days of obtaining this designation.

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8. Suspect and Counterfeit Parts Prevention / GIDEP

- a. Supplier shall establish and maintain controls which seek to prevent the purchase and delivery of Suspect and Counterfeit Parts to Aerojet Rocketdyne. Supplier shall only purchase products to be delivered to Aerojet Rocketdyne directly from the Original Component Manufacturer (OCM)/Original Equipment Manufacturer (OEM) or through an OCM/OEM authorized distributor chain. Parts shall not be acquired by the supplier and furnished to Aerojet Rocketdyne from independent distributors or brokers **unless approved in advance and in writing by Aerojet Rocketdyne.**
- b. **Supplier** shall immediately notify Aerojet Rocketdyne with the pertinent facts if the Supplier becomes aware that it has furnished Suspect or Counterfeit parts. After such notification, when requested by Aerojet Rocketdyne, Supplier shall provide copies of OCM/OEM documentation in its possession that authenticates traceability (up to and including other testing validation methods) of the affected items to the applicable OCM/OEM.
- c. Suspect counterfeit parts and/or materials shall be immediately quarantined to prevent parts/materials from getting back into component/materials supply chain until authenticity validation can be conducted.
- d. In the event that the Supplier delivers items under this Contract that are determined to be counterfeit, Supplier shall, at its expense, (i) promptly replace such Counterfeit items with items conforming to the requirements of this Contract, and (ii) reimburse Aerojet Rocketdyne for all reasonable, direct costs incurred for the removal and replacement of Counterfeit items, including any testing costs necessitated by the removal and replacement, if any.
- e. Suppliers eligible for utilization of the Government-Industry Data Exchange Program (GIDEP) shall utilize the GIDEP process to alert industry of encountered counterfeit parts. Supplier is prohibited from shipping material for which a GIDEP Alert has been issued. The supplier agrees to support Aerojet Rocketdyne in GIDEP compliance efforts. Also the Supplier shall not ship any suspected counterfeit parts as notified by Aerojet Rocketdyne of any alerts or other suspect counterfeit conditions.
- f. Supplier shall include paragraphs 8.a through 8.e of this section or equivalent provisions in lower tier subcontracts for the delivery of items that will be included in or furnished as Work to Aerojet Rocketdyne.

9. Packaging, Marking, Handling, and Storage Requirements:

These requirements reflect what Aerojet Rocketdyne considers good practices to protect and control items being delivered and are not intended to supersede or conflict with any packing and packaging requirements contained in an item's design information or otherwise contained in the Aerojet Rocketdyne Purchase Order.

General: Materials shall be packaged in a manner that will prevent damage and preclude moisture, foreign matter or contamination damage. When multiple items are to be shipped in a package, the items will be individually packed or wrapped in a manner to prevent damage due to contact with other items. Marking, labeling, and identification must be extended to the lowest level of unit packaging and shall be sufficiently clear to identify the contents of the package.

Bare metal material having surface protective treatment such as plating, painting, anodizing, conversion coating, etc., shall be wrapped separately in chemically-neutral paper or equivalent to prevent damage to the coating.

Handling, protection, or packaging shall not be accomplished using tapes which have glass beads in the tape (i.e., nylon reinforced tape) or on the tape as a separator. This requirement shall be placed in purchase order(s) to your subtier suppliers.

AR1: Quality Management Systems - Requirements for Aviation, Space and Defense Organizations (AS9100) and General Requirements**a. Time, Temperature, Static Discharge, or Environmentally Sensitive Items.**

Items described in their design, specification, or manufacturers' documentation as sensitive to time, temperature electrostatic discharge, or other environmental conditions and have special packaging, marking, and handling requirements and controls specified, shall be packaged, marked, and handled in accordance with those requirements and controls to preclude damage or deterioration to the product during shipment and upon receipt.

b. Returned Product and Test Articles/Coupons, etc.

Items being delivered as a result of a Return to Supplier disposition on an Aerojet Rocketdyne Nonconformance Report (NC), shall be segregated from other shipments in properly identified intermediate packaging and be clearly marked as such with the item identification (Part and Serial Number) and Aerojet Rocketdyne NC number.

Parts, samples, items, test coupons that are shipped as required for testing or destructive testing or have been expended in testing shall be packaged separately and uniquely identified as samples or test articles and not for flight or production usage.

Information specifications referenced in this document:

ANSI Z540.1 or ISO/IEC 17025	Calibration Laboratories and Measuring and Test Equipment - General Requirements for Calibration of Measuring and Test Equipment
NAS 412	Foreign Object Damage/Foreign Object Debris (FOD) Prevention
SAE AS9100	Quality Management Systems - Requirements for Aviation, Space and Defense Organizations
SAE AS9102	Aerospace First Article Inspection Requirement
SAE AS 9104-2	Requirements for Oversight of Aerospace Quality Management System Registration/Certification Programs

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Figure 1

Supplier Certificate of Conformance*

* Provided for Supplier use, and also as a guide or template for C of C requirements. Supplier's C of C is acceptable provided any applicable data/information shown is included. N/A those items that do not apply

Supplier Company Name		Address:		Contact Tel No.		
Aerojet Rocketdyne Purchase Order No.		Line Item No.				
Part Number ->		Revision				
List any internal traceability IDs (Job No, Mfg. Orders, Batch Numbers, etc.):		Quantity				
Item Traceability required by the Drawings, Specifications, or PO (Serial No, Lot No, etc.)						
List any Supplier Submittal Requests (SSRs) and Attach:		Reason for Submittal: Product Nonconformance, Special Process, Test Approval, etc. required by the PO.				
Aerojet Rocketdyne Supplied Items/Materials: Y ___ N ___		Item or Part No: _____		Aerojet Rocketdyne Doc Number: _____		
Special Processes: Record any special processes required by the Purchase Order, Drawings, or Specification and Processor, attach any process certifications to the C of C – Certifications must be directly traceable each item processed						
Supplier (Processor) Name	Processor Address (including city/state)	Requirement: Specification, Drawing Note, etc.	Rev	Supplier Material Processing Procedure # / Revision	Processor Cert. No.	Date Processed

We certify that the above listed part/materials were processed in full compliance with all drawing specifications and/or technical provisions described in the Purchase Order

Authorized Company Quality Management Representative:

Name	Title:	Tel No.
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Signature: _____ Date: _____ Email Address: _____

This document is an integral part of the contract (purchase order) in which referenced. **Applicable Revision:** The revision in effect at the time the purchase order is placed.