APPROVED BY: *Troy Ferreira*

QUALITY ASSURANCE REQUIREMENTS FOR PURCHASE ORDERS, QSP 7 Attachment 33

1. PURPOSE:

To establish quality assurance requirements relating to purchased products and services in order to meet all requirements of L&M Machining and its customers as well as any applicable standards, statutory and regulatory requirements.

2. SCOPE:

This document applies to all purchase orders released by L&M Machining Corporation.

3. DEFINITIONS:

- Purchaser: The authorized representative of L&M Machining who approves and releases the purchase order.
- Purchase Order: The order, sub-contract or written agreement with the supplier, in which the requirements of this document are incorporated.
- Records: Documents containing recorded information, regardless of the medium or characteristic, which provide evidence that products meet regulatory requirements and comply with specified product or service requirements.
- Supplier: The legal party (i.e. seller, vendor, sub-contractor) listed on the purchase order who supplies the product or service ordered.

4. REFERENCES (latest revisions):

4.1. ANSI/ISO/ASQ Q9001

4.2. ISO/TS 16949

4.3. SAE AS9100

5. RESPONSIBILITY:

5.1. Purchaser Responsibility

The purchaser is responsible to ensures that the purchase order includes the name or other positive identification, and applicable issues of:

- Specifications
- Drawings
- Process requirements
- Inspection instructions
- Other relevant technical data

The purchaser also is responsible to include on the purchase order reference to this document and any applicable special quality assurance requirements as listed in section 6.2.

5.2. Supplier Responsibility

The supplier shall conduct a review of the purchase order for all stated requirements including price and delivery. Also, the supplier shall review any unstated requirements including statutory and regulatory requirements as applicable and requirements necessary for the specified or intended use, when know. With the acceptance of the purchase order the supplier agrees to take on the responsibility of ensuring the product or service ordered meets the requirements listed on the purchase order as well as all additional applicable requirements of this document, standards / specifications, statutory and regulatory requirements. Any resolution of differences between the requirements and what the supplier plans to deliver (including price and delivery) are to have a documented resolution with the purchaser prior to order acceptance. Unless the supplier notifies the purchaser regarding the order being placed on hold to resolve these differences, the order is considered accepted when any commencement of work to meet the order starts (i.e. production / service activity, purchase order to sub-contractor, etc.), or after 48 hrs of order receipt, whichever is sooner.

6. QUALITY ASSURANCE REQUIREMENTS:

6.1. Standard Quality Assurance Requirements

The following requirements are applicable to all purchase orders:

a) L&M Machining, its customers and regulatory authorities shall have the right to access any applicable quality records related to this order.

b) Unless the Purchaser specifies clause Q24 or Q24-A on the purchase order extending the retention period, all records shall be maintained for a minimum of 1 year from the time of delivery of the product or service.

c) If the supplier is the manufacturer of the product or is processing L&M Machining supplied product / material, the supplier shall have an appropriate control plan in place to ensure quality including requirements for design, test, examination, inspection and related instructions for acceptance. This control plan shall be available for review by L&M Machining, its customers and regulatory authorities.

d) The supplier shall notify the purchaser within 24 hrs if any L&M Machining supplied product / material is found to be nonconforming. Any disposition of supplied nonconforming product / material shall be approved by the purchaser. Supplied product / material remains the property of L&M Machining and shall be returned unless otherwise stated by the purchaser.

e) Any nonconforming product / material shall not be used unless specifically approved by the purchaser. If any product / material is suspected as being non-conforming after it has been shipped / delivered to the purchaser, the supplier shall notify the purchaser within 24 hrs via appropriate written communication detailing the suspected non-conformity. Examples of appropriate written communication are: e-mail with response from purchaser as being received, Fed-Ex letter, certified letter or equivalent.

f) The supplier shall take all practical measures to prevent counterfeit product from being delivered. Counterfeit product is defined as an unauthorized copy, imitation, substitute, or modified product (e.g. material, part, component), which is knowingly misrepresented as a specified genuine part of an original or authorized manufacturer. Some things to be considered for counterfeit product prevention are:
- Training of appropriate persons in the awareness and prevention of counterfeit parts.
- Application of a parts obsolescence monitoring program.
- Controls for acquiring externally provided product from original or authorized manufacturers, authorized distributors, or other approved sources.
- Requirements for assuring traceability of parts and components to their original or authorized manufacturers.
- Verification and test methodologies to detect counterfeit parts.
- Monitoring of counterfeit parts reporting from external sources such as the Government Industry Data Exchange Program (GIDEP) and following the GIDEP Operations Manual found on the www.gidep.org website.
- Quarantine and reporting of suspect or detected counterfeit parts.

g) Rework or repair plans shall be approved by the purchaser prior to the performance of the rework / repair. Any reworked / repaired product shall be positively identified on the shipping documentation when submitted to L&M Machining.

h) Required certifications / test reports / other documentation shall be included with the product / service at the time of delivery and shall be legible and correctly reflect the requirements of the purchase order. Any illegible / incorrect / missing documentation is grounds for rejection of the product / service.

i) Approval shall be obtained from the purchaser prior to work being performed for the following:
- changes in any process which may affect the product / service
- changes in materials
- relocation of the processing facilities
- interruption of production which may affect the timely delivery of the product / service

j) The use of sub-tier suppliers to process L&M Machining supplied product / material shall be approved by the purchaser prior to work performed.

k) All related purchase order requirements shall flow down to any sub-tier supplier in the purchasing documentation submitted to the sub-tier supplier, including key characteristics where required.

l) The supplier shall ensure that persons within their organization are aware of the following:
- Their contribution to product or service conformity.
- Their contribution to product safety (i.e. conformity of supplied product or service can directly affect the end product safety).
- The importance of ethical behavior.

m) If this is a rated order certified for national defense use, the supplier is required to follow all the provisions of the Defense Priorities and Allocation System (DPAS) regulations (15 CFR PART 700). Details can be found in the Department of Commerce website (https://www.ecfr.gov/current/title-15/subtitle-B/chapter-VII/subchapter-A/part-700). A rated order will have a statement in the purchase order comments indicating it has a "DPAS RATING" with the appropriate rating of "DO" or "DX" and sometimes followed by a suffix such as "A1". Please note, the suffix has no significance for prioritizing. Here is an example DPAS rating statement: "DPAS RATING: DO-A1".

6.2. Special Quality Assurance Requirements

The following requirements are only applicable to purchase orders when referenced on the order by clause number (i.e. Q1):

Q1 ISO 9001 Registration

The supplier shall be registered to the latest ISO 9001 quality management system standard by an accredited 3rd party registrar.

Q2 [deleted]

Q3 AS 9100 Registration

The supplier shall be registered to the latest AS 9100 quality management system standard by an accredited 3rd party registrar.

Q4 [deleted]

Q5 ISO/TS 16949 Registration

The supplier shall be registered to the latest ISO/TS 16949 quality management system standard by an accredited 3rd party registrar.

Q6 [deleted]

Q7 Control Plan Approval

The control plan detailing the procedures, processes and manufacturing / inspection equipment related to this order shall be approved by L&M Machining or an authorized 3rd party prior to production of the product or provision of the service. This control plan shall include as applicable:
- Requirements for design
- Requirements for testing
- Requirements for examination
- Requirements for inspection and related instructions for acceptance including sample size, lot size, inspection level and AQL
- Objective evidence of inspection / testing performed
- A calibration program traceable to NIST or internationally recognized standards per ISO / IEC Guide 25 or ISO 17025 or equivalent.
- System to identify and segregate nonconforming material / product
- Revision level control of product and applicable standards
- Product / service traceability

Q8 Personnel Qualification

Evidence showing qualification of personnel performing the production / service shall be available.

Q9 L&M Source Inspection

The product / service shall be approved by L&M Machining's quality representative (source inspector) prior to shipment / provision or at the stage(s) of production / service indicated on the purchase order. Verification by the source inspector shall not absolve the supplier of the responsibility to provide acceptable product nor shall it preclude subsequent rejection.

Q10 3rd Party / Regulatory Source Inspection

The product / service shall be approved by an identified 3rd party or regulatory authority (source inspector) prior to shipment / provision or at the stage(s) of production / service indicated on the purchase order. Verification by the source inspector shall not absolve the supplier of the responsibility to provide acceptable product nor shall is preclude subsequent rejection.

Q11 Certificate of Conformance

The supplier shall include with the shipping documentation a Certificate of Conformance at the time of delivery of each shipment. The Certificate of Conformance shall be signed and dated by an authorized representative of the supplier worded substantially as follows:

"We hereby certify that material / parts / processing furnished according to this purchase order have been manufactured or processed in accordance with all applicable instructions, drawings and specifications. If any material was supplied by the customer, it was used in the manufacturing / processing of this order. With the exception of any material supplied by the customer, all physical and chemical data pertaining to this order is on file at our facility and available upon request."

As a minimum, the certificate shall include:

1) Name and address of Supplier.
2) Part number and revision level as shown on the Purchaser's purchase order.
3) Quantity shipped as shown on the Supplier's invoice / packing list.
4) The purchase order number.
5) Supplier's invoice / packing list number.
6) Date of shipment.
7) Applicable lot number or other unique code for traceability.

Any exceptions to the above minimum requirements shall be noted on the purchase order or a purchase order amendment.

Any product that is returned to the supplier for rework shall include a new Certificate of Conformance when the product is re-submitted.

Q12 Actual Material Test Report

The Supplier shall furnish a Certified Material Test Report for each lot / heat / production run of material supplied at the time of delivery. This report shall include the following as applicable:

1) Material name / designation
2) Material description
3) Alloy / type / grade / condition
4) Producer / manufacture / mill name
5) Lot / heat / production or other unique code for traceability
6) Material specification and revision to which the material complies
7) Actual values of the chemical and physical properties compared to values required by the applicable specification
8) Signed and dated by the original manufacturer or testing lab

Any product that is returned to the supplier for rework / replacement shall include a Certified Material Test Report when the product is re-submitted.

Q13 Material Certification

The supplier shall include with the shipping documentation a Material Certification at the time of delivery of each shipment. As a minimum, the certificate shall include:

1) Material name / designation
2) Material description
3) Alloy / type / grade / condition
4) Producer / manufacture / mill name
5) Lot / heat / production or other unique code for traceability
6) Material specification and revision to which the material complies
7) Signed and dated by the original manufacturer or testing lab

Any product that is returned to the supplier for rework / replacement shall include a Material Certification when the product is re-submitted.

Q13-D DFARS Material Certification

Any specialty metals delivered under this Purchase Order must comply with the Defense Federal Acquisition Regulation Supplement (DFARS) clauses 252.225-7008, 252.225-7009 and 252.225-7010. Specialty metals, as defined in the above mentioned DFARS clauses, shall be melted or produced in the United States, its outlying areas, or a qualifying country as defined in DFARS 225.003. The supplier shall comply with the requirements of Q13 above as well as including a statement that the supplied material meets the requirements of DFARS clauses 252.225-7008, 252.225-7009 and 252.225-7010 (or is DFARS compliant).

Q14 Process Certification

The supplier shall include with the shipping documentation a Process Certification at the time of delivery of each shipment. The certificate shall include the following as applicable:

1) Name and address of Supplier
2) Process name / designation / class / grade
3) Process description
4) Specification and revision to which the process complies
5) Part number and revision of the parts processed
6) Lot / batch / production or other unique code for traceability
7) Purchase order number
8) Signed and dated by the quality representative of the processor or testing lab

Any product that is returned to the supplier for rework shall include a new Process Certification when the product is re-submitted.

Q14-A NADCAP Certification

The supplier shall be NADCAP accredited for the special process being performed. The supplier shall meet all requirements of Q14 and shall also include a statement on the process certification indicating the job was processed per their NADCAP accreditation and shall include the special process code(s) (i.e. CP, NDT, etc) and expiration date(s).

Q15 Statistical Process Control

The Supplier shall maintain records of evidence of Statistical Process Control (SPC) using appropriate techniques in order to control Key Product Characteristics as identified on the purchase order / drawings / specifications. Any out of control / unstable conditions (i.e. Cpk less than 1.33) found shall trigger documented corrective action. These records shall be delivered upon request by the Purchaser.

Q16 First Article Inspection Report

The Supplier shall provide a complete First Article Inspection Report for the first part produced. This report shall minimally include the following:

1) Name and address of the supplier
2) Part number and revision level of the product
3) Serial number of the product (if applicable)
4) Purchase order number
5) A complete listing of all drawing / specification characteristics with upper and lower limits
6) Actual measured values. Variable measurements shall be used except where impractical.
7) A clear “pass / fail” indication for each measured value.

A first article shall not be submitted with any unacceptable (failed) characteristic unless a documented concession / variation is accepted and signed by the Purchaser or his quality representative and a copy attached to the First Article Report.

Acceptance of the First Article Report / sample by the purchaser shall not absolve the Supplier of the responsibility to provide acceptable subsequent product, nor shall it preclude subsequent rejection.

Manufacture of production units prior to First Article approval is solely at the Supplier’s risk.

Q16-A Aerospace First Article Inspection Report AS9102

A First Article Inspection Report shall be provided in accordance with the most current version of AS9102 on the appropriate forms.

Q17 Test Specimens Required

The Supplier shall provide test specimens in accordance with the purchase documentation / drawing / specification.

Q18 Non-Destructive Test Reports

The supplier shall include with the shipping documentation a Non-Destructive Test (NDT) Report (i.e. penetrant, magnetic particle, radiographic, ultrasonic) at the time of delivery of each shipment. As a minimum, the report shall include:

1) Name and address of the testing laboratory
2) Part number and revision level of the product tested
3) Lot / batch / production or other unique code for traceability
4) Serial numbers (as applicable)
5) Test name / type / method
6) Specification / standard / acceptance criteria
7) Clear pass / fail indication
8) Name of certified technician who performed / evaluated the test
9) Signature and date by an authorized representative of the organization which actually performed the test.

All items subjected to NDT shall be identified with the appropriate NDT stamp / tag / label. Any applicable test results / evidence (i.e. radiographic shooting sketch, exposed film) as specified on the purchase order shall be delivered along with the report.

Q19 Functional Test Reports

The supplier shall include with the shipping documentation a Functional Test Report at the time of delivery of each shipment. As a minimum, the report shall include:

1) Name and address of the testing laboratory
2) Part number and revision level of the product tested
3) Lot / batch / production or other unique code for traceability
4) Serial numbers (as applicable)
5) Test name / type / method
6) Specification / standard / acceptance criteria
7) Actual test results (data sheets) recording actual readings for all test parameters specified
8) Clear pass / fail indication
9) Name of certified technician who performed / evaluated the test
10) Signature and date by an authorized representative of the organization which actually performed the test.

All product subjected to functional testing shall be identified with the appropriate stamp / tag / label.

Q20 Lot Traceability

The supplier shall maintain a lot traceability system for products / services delivered using lot / batch / job / production numbers or other unique code for traceability. This unique code shall be clearly marked on all required documentation delivered with the product as well as any other associated records maintained by the Supplier relating to the product / service.

Q21 Certification of Calibration

Monitoring, measurement and test equipment supplied or serviced under this Purchase Order shall be calibrated in accordance with ISO/IEC 17025 or national equivalent such as ANSI/NCSL Z540-1-1994, ISO 10012-1, ISO Guide 25, or MIL-STD-45662A using standards traceable to the National Institute of Standards & Technology (NIST). A Certificate of Calibration to the applicable specification is required for each item calibrated minimally showing the following:

1) Name and address of the calibration laboratory
2) ID number / serial number of the item calibrated
3) Certificate control number or other traceability code
4) Identification of the calibration equipment and standards used with traceability to NIST
5) Acceptance criteria
6) Actual readings for item as received with clear pass / fail indication before any adjustments are made
7) Actual after calibrated / adjusted readings compared to acceptance criteria
8) Clear pass / fail indication stating conformity or nonconformity to the appropriate specification / criteria
9) Name and signature / controlled stamp of certified technician who performed the calibration

Q22 Approved Suppliers

The Supplier shall only use sub-tier suppliers that are approved by the Purchaser specifically on the purchase order, amendment to the purchase order, the supplied drawing / specification or L&M Machining's Approved Supplier List (list is available upon request).

Q23 Mercury Free Certification

The Supplier shall ensure that the product delivered is free of mercury. A statement declaring the product is free of mercury shall be added to the Certificate of Conformance or a separate certification shall be submitted along with each shipment and shall include as a minimum:

1) Name and address of Supplier.
2) Material description / part number and revision level as shown on the Purchaser's purchase order.
3) Quantity shipped as shown on the Supplier's invoice / packing list.
4) The purchase order number.
5) Supplier's invoice / packing list number.
6) Date of shipment.
7) Applicable lot number or other unique code for traceability.

Any product that is returned to the supplier for rework shall include a new Mercury Free Certification when the product is re-submitted.

Q24 Record Retention

All records relating to the purchased product / service shall be maintained for a minimum of 10 years from the time of provision of product / service or the specific time period indicated on the purchase order whichever is longer.

Q24-A Critical Record Retention

When this quality clause is on the purchase order, any records relating to the purchased product / service are considered critical records (i.e. flight safety parts, safety parts, flight critical parts, manned space program hardware, etc.). All records relating to the purchased critical product / service shall be maintained for a minimum of 40 years from the time of provision of product / service or the specific time period indicated on the purchase order whichever is longer.

7. QUICK REFERENCE

Q1	**ISO 9001 Registration**
Q2	**[deleted]**
Q3	**AS 9100 Registration**
Q4	**[deleted]**
Q5	**ISO/TS 16949 Registration**
Q6	**[deleted]**
Q7	**Control Plan Approval**
Q8	**Personnel Qualification**
Q9	**L&M Source Inspection**
Q10	**3rd Party / Regulatory Source Inspection**
Q11	**Certificate of Conformance**
Q12	**Actual Material Test Report**
Q13	**Material Certification**
Q13-D	**DFARS Material Certification**
Q14	**Process Certification**
Q14-A	**NADCAP Certification**
Q15	**Statistical Process Control**
Q16	**First Article Inspection Report**
Q16-A	**Aerospace First Article Inspection Report AS9102**
Q17	**Test Specimens Required**
Q18	**Non-Destructive Test Reports**
Q19	**Functional Test Reports**
Q20	**Lot Traceability**
Q21	**Certification of Calibration**
Q22	**Approved Suppliers**
Q23	**Mercury Free Certification**
Q24	**Record Retention**
Q24-A	**Critical Record Retention**