| CVM | Title: ***SUPPLIER QUALITY ASSURANCE MANUAL*** | |
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| WORK INSTRUCTION | ***WI-72*** | Revision: ***10*** |

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| Issued By: | Process Owner | Purchasing Manager | Date: 10/9/19 |
| Approved By: | President | James D. Moore (signature on file) | Date: 10/9/19 |

## 1. PURPOSE

1.1. To define Cambridge Valley Machining, Inc. (CVM) quality requirements to suppliers and/or subcontractors who supply production products and services to Cambridge Valley Machining, Inc. (CVM).

1.2. To define the quality requirements required to maintain acceptable status levels on CVM's Approved Supplier List (ASL).

## 2. SCOPE

2.1. This manual applies to all suppliers of material, components, and services used in production to CVM.

2.2. Subcontractors are responsible for the quality of the products and services supplied to Cambridge Valley Machining, Inc.

2.3. Cambridge Valley Machining, Inc. defines quality as providing products and services that meet or exceed customer expectations. Suppliers are expected to meet all defined requirements. Documents defining requirements include, but are not limited to:

2.3.1. Purchase Order (D032)
2.3.2. Drawing
2.3.3. Customer specific requirements
2.3.4. Terms and Conditions (D232)
2.3.5. Special Purchase Order Requirements (D233)
2.3.6. This manual (Supplier Quality Assurance Manual (or SQAM)) (WI-72)

## 3. POLICY

3.1. CVM's suppliers are expected to meet or exceed our requirements by providing on-time delivery of parts that meet specification.

3.2. Preference will be given to suppliers who demonstrate a competitive advantage in the areas of lead-time, cost, and ability to consistently meet quality requirements.

3.3. The words "requires," "shall," or "must" in this document indicate mandatory requirements.

## 4. RELATED DOCUMENTS AND FORMS

4.1. AS9100
4.2. ISO 9001

4.3. Cambridge Valley Machining, Inc. QMS procedures, including, but not limited to:

4.3.1. QSP 4.2.3 Control of Documents
4.3.2. QSP 4.3.4 Control of Records
4.3.3. QSP 8.2.2 Internal Quality Audits
4.3.4. QSP 8.3.1 Control of Nonconforming Product
4.3.5. QSP 8.5.2 Corrective Action
4.3.6. QSP 8.5.3 Preventive Action
4.3.7. WI 7.4.1.1 Supplier Selection and Assessment
4.3.8. WI 7.4.2.1 Purchase Order Generation and Issue

4.4. Nondisclosure Agreement (NDA)
4.5. International Traffic in Arms Regulations (ITAR)
4.6. Purchase Order (D032)
4.7. CVM Terms and Conditions (D232)
4.8. Special Purchase Order Requirements (D233)
4.9. Supplier Corrective Action Report (SCAR) D007
4.10. Quality Key Person Report D228
4.11. Deviation Request D043
4.12. Approved Supplier List (ASL) D018
4.13. Customer specific documents

## 5. GENERAL QUALITY REQUIREMENTS

### 5.1. Quality System Expectations

5.1.1. Preference may be given to companies registered to ISO9001 and/or AS9100. In some cases, registration may be required by CVM or CVM's customer.

5.1.2. NADCAP certified processes may be required.

5.1.3. Copies of all current applicable certifications must be supplied to CVM.

### 5.2. Right of Access

5.2.1. All suppliers are subject, at CVM's discretion, to right of access by CVM, its customers, *and regulatory authorities to all applicable areas of all facilities, at any level of the supply chain, involved with the products and/or services delivered for:*

5.2.1.1. Evaluation of facilities and processes
5.2.1.2. Verification that products produced are safe and meet design requirements
5.2.1.3. ($2^{nd}$ party) Quality audits
5.2.1.4. Review of quality issues and verification of corrective action
5.2.1.5. Verification all quality requirements, including systems requirements such as applicable certifications, applicable records, record retention requirements, etc.

5.3. **Change Requests.** All proposed specification and/or process changes must be submitted to CVM Purchasing for approval.

5.4. **Corrective Action:** In the event of a material nonconformance or delivery discrepancy, CVM may initiate a Supplier Corrective Action Request (SCAR). The supplier is expected to respond initially within 20 calendar days with root cause analysis complete and a short term and long term corrective action plan. Upon completion of the long term action plan and verification of effectiveness the SCAR will be presented to CVM's Management Team for review and closure.

5.4.1. Specific actions will be taken by CVM if supplier corrective action is not timely or effective. These actions include:

5.4.1.1. First reminders will be sent after 20 calendar days with no response. Reminder will include CVM Quality Manager.

5.4.1.2. If no response has been received within 10 calendar days after the first reminder, CVM's Quality Manager will send a second reminder to the supplier's Senior Management requesting resolution.

5.4.1.3. If no response has yet been received 10 days after the second reminder, CVM's Quality Manager may at their discretion escalate the complaint to a higher level (such as CVM's customer if the supplier was chosen to meet the customer's ASL). Alternately, CVM's Quality Manager may decide to close the SCAR, indicating that the supplier was unresponsive. In this event, the closed SCAR record must include documentation of all requests and reminders sent to the supplier.

5.4.1.4. If corrective action is proven to be ineffective, the SCAR will be reopened. If the corrective action was previously accepted and a repeat problem occurs, a new SCAR will be issued, referencing the earlier SCAR.

5.4.1.5. CVM may require a visit to the supplier for on-site evaluation of SCAR status and effectiveness.

5.4.1.6. Continuing issues with timeliness and/or effectiveness of Corrective Action may result in a negative performance rating on CVM's vendor rating list.

5.4.1.7. Continuing issues may lead to change in status on CVM's Approved Suppliers List (ASL), including reduction to "conditional" or "disapproved" status.

5.5. **Nonconforming Product:** Unless otherwise specified, there is no Material Review Board (MRB) authority granted to the supplier or any sub-tier suppliers providing materials, parts, or services as a result of a Purchase Order. It is the supplier's responsibility to sort, scrap, or rework all nonconforming product. In the case of a known potential discrepancy, the supplier is not to ship suspect product to CVM without approval A CVM deviation request form is available and may be used to record any requested deviations and approval status.

5.5.1. **NOTE: Dispositions of "use as is" or "repair" require deviation approval from CVM.**

5.6. **Return of Previously Rejected Parts:** When previously rejected parts are returned to CVM, reworked and/or replacement items shall be kept separate and clearly identified. A "certified" label shall be attached to all containers that clearly identify the parts are "certified", with a reference to the NCR number (or numbers). On the packing slip, the quantity of each component shall be itemized and the CVM Nonconformance Report (NCR) number shall appear. All of the certification requirements originally identified on the P.O. are applicable to reworked and/or replacement items.

5.7. **Notification of Suspected Nonconforming Product**. If a supplier suspects the possibility that nonconforming product has been shipped, immediate notification must be made to CVM's Quality and Purchasing Departments.

5.7.1. When assessing responsibility for cost of a nonconformance, supplier performance, and overall supplier ratings, consideration will be given for suppliers who have been proactive and responsive in addressing quality concerns.

5.8. **Lot Traceability:** Suppliers shall be responsible for maintaining lot traceability. Parts shipped to suppliers for outsourced processes shall be returned in the same lots as received. Split lots and / or partial shipments are not acceptable without prior approval. Suppliers must account for any parts missing due to scrap, testing, etc.

A lot is defined as the quantity specified on the purchase order and the product supplied for processing that matches that quantity. If there are multiple purchase orders and multiple shipments of product available for processing at one time, the processing of the purchase orders lots must be kept separate unless approval is given by Cambridge Valley Machining. Product shipped for processing is physically identified with a blue tag and a Manufacturing Order number (Mxxxxxx). Manufacturing Orders must not be mixed without prior approval.

5.9. **Part Accountability:** Suppliers shall be responsible for the accountability of all parts. Any parts shipped to the supplier by CVM that are used for destructive testing or inspection, or removed from the original quantity for any reason, are to be accounted for on the packing slip. The supplier shall be responsible for the full value of any missing parts, unless otherwise agreed to.

5.10. **Material Safety Data Sheets (SDS):** Suppliers are required to identify restricted, hazardous, and otherwise regulated materials and warrant supplied materials comply with all applicable regulations. An SDS that complies with applicable law for all restricted, toxic, and hazardous materials must be submitted to CVM for review and approval prior to shipment of product.

5.11. **Material Sources:** CVM must approve all material sources and any change to an approved material source. The supplier should identify all material sources during the quotation process. Any special restrictions on material sources based on customer specific requirements will be communicated to the supplier by CVM.

5.12. **Melt Source Material Certifications:** Unless otherwise specified, all raw materials are to be accompanied by a copy of the melt source's material specification showing chemical and physical characteristics meet the specification for that material. If the material is purchased from a distributor, convertor, or processor, the melt source must be listed on the material specifications. Mill certifications must be received at CVM prior to or with material receipts. Mill certifications must be unaltered and identify the producing mill and the heat number of the pre-processed material.

5.13. **Certificate of Conformance:** A Certificate of Conformance (COC) is to be supplied with all shipments of purchased product and special processes, unless otherwise specified.

5.13.1. Certificate of Conformance from a Subcontractor and Supplier documentation requirements:

5.13.1.1. Subcontractor and Supplier's name and address
5.13.1.2. Lot number and Date code
5.13.1.3. Quantity of purchased item
5.13.1.4. Part number and revision
5.13.1.5. PO number
5.13.1.6. Shall include any testing records required by CVM
5.13.1.7. Note special process, standard, and revision as applicable
5.13.1.8. For purchased product, supplier shall certify that it and/or its subcontractors and suppliers do not procure, manufacture, include or otherwise use any Additive Manufacturing methods or processes delivered to CVM unless otherwise specifically required by Purchase Order.
5.13.1.9. Signature and date of transaction

5.13.2. Certificate of Conformance from a Qualified Distributor documentation requirement:

5.13.2.1. Distributor's name and address
5.13.2.2. Name and address of customer
5.13.2.3. Manufacturer's name and address, if applicable

5.13.2.4. Quantity of parts in shipment
5.13.2.5. NSN
5.13.2.6. Lot number
5.13.2.7. Certification that this shipment is part of the shipment covered by the manufacturer's documentation and an attached copy of the manufacturer's original certification.
5.13.2.8. Certification that authorizes dealers and distributors have handled the products in accordance with CVM's purchase order and CVM's customer's PO/contract as flowed down
5.13.2.10. Supplier shall certify that it and/or its subcontractors and suppliers do not procure, manufacture, include or otherwise use any Additive Manufacturing methods or processes delivered to CVM unless otherwise specifically required by Purchase Order.
5.13.2.11. Signature and date of transaction

5.14. **Retention, submission and disposition of records:** CVM requires suppliers to retain all production records, inspection records, and any other applicable documentation which verify compliance to specifications, for a minimum of 10 years. Should customer specific requirements require a longer retention time; this will be communicated by CVM's Purchasing Department. Records must be made available to CVM within 24 hours of request. If material is found to be out of specification, the supplier must immediately notify CVM. Nonconforming product can only be accepted on approval of a request for deviation. (See section 5.5.) When dispositioning of records, supplier must destroy paper records and delete electronic files.

5.15. **Correction of Documentation:** If any documentation required by the Purchase Order requires correction, either prior to or after submittal to CVM, the correction shall be made by drawing a single line through the incorrect information, then entering the correct information above or below the line out. All corrections are to be initialed and dated.

5.16. **Customer Specific Requirements:** The Supplier is required to meet all CVM's customer specific requirements, including those that may be included in this manual or otherwise communicated to the supplier by CVM or CVM's customer(s). *as stated on Purchase Order and/or "R" clause (D233)*

5.17. **Quality Key Person Report:** A Quality Key Person Report must be submitted by all suppliers. This CVM document supplies the key contact information so CVM can immediately contact the person(s) responsible for quality at the supplier when questions or concerns arise. Any applicable personnel changes at the supplier require the submission of an updated Quality Key Person Report.

5.18. **Supplier Responsibilities:** It is the Supplier's responsibility to conform to all the above conditions and additional details as may be contained elsewhere in this manual and/or in the Purchase Order.

5.18.1. Where not otherwise specified, standards contained in AS9100 (current rev) and/or ISO9001 (current rev) are to be followed. It is the Supplier's responsibility to be familiar with the requirements of these quality systems.

5.18.2. It is the Supplier's responsibility to flow-down all requirements to any sub-tier suppliers.

5.18.3. **Counterfeit Material Avoidance:** It is the Supplier's responsibility to ensure that all purchased material delivered to CVM must have been procured by the seller directly from either the manufacturer of the item(s) or an authorized distributor of the manufacturer of the item(s). A Certificate of Conformance (CoC) and a method of item traceability shall be retained for each component. These documents shall be retained per the records retention requirements of this document.

## 6. ADVANCE PRODUCT QUALITY PLANNING (APQP)

6.1. Suppliers are expected to plan their processes and inspection plans in a way that will ensure compliance to all specifications communicated to them by CVM and/or its customers.

6.2. To verify process readiness, CVM may, as applicable and at its discretion, require documentation such as, but not limited to:

6.2.1. Process Flow Charts
6.2.2. Process Failure Mode and Effects Analysis (PFMEA)
6.2.3. Control Plans
6.2.4. Inspection Plans
6.2.5. Capability Studies
6.2.6. Measurement Systems Analysis (Gage R&R and/or MSA)

## 7. CHANGE CONTROL

7.1. Per section 5.3, proposed changes to a CVM approved product or process must be submitted to CVM Purchasing Department, in writing, for approval. Such changes can include

7.1.1. A new part, part number, or part revision.

7.1.2. Any process change that affects process flow, process parameters, and or product characteristics.

7.1.3. Any change that affects PFMEA and/or Control Plan

7.1.4. Material changes

7.1.5. Tooling changes (modified or new tooling), with the exception of consumable tooling, such as dies, molds, patterns.

7.1.6. Equipment changes, refurbishment, relocation, rearrangement, or repositioning if the change involves key characteristics and/or may result in a change to product characteristics.

7.1.7. Any outsourcing (sub-supplier) changes for secondary processes.

**8. QUALITY ASSESSMENTS.** Cambridge Valley Machining, Inc. may conduct 2nd party quality assessments

8.1. On new suppliers, before award of contract.

8.2. Annually, with selected suppliers. Selection will be based on quality performance, previous assessment results, and criticality of product to CVM and/or its customer.

8.3. As part of a root cause investigation or corrective action verification resulting from:

8.3.1. Poor supplier performance rating
8.3.2. A specific quality issue

8.4. If required by CVM's customer

8.5. Prior to any assessment, the supplier will be contacted by a representative of CVM Purchasing or Quality Department to confirm a schedule for the assessment.

**9. DELIVERY PERFORMANCE.** Suppliers are responsible for delivery performance, including:

9.1. Delivery of on-time shipments
9.2. Shipping to schedule
9.3. Correct labeling
9.4. Proper packaging, including protective packaging where applicable.
9.5. Expedites of past due product.

**10. PART ACCOUNTABILITY and COUNT VERIFICATION. S**uppliers are responsible for assuring accurate part counts and part accountability.

10.1. On receipt of parts from CVM for processing, suppliers are to verify counts and report any discrepancies to CVM prior to processing the parts.

10.2. When shipping product to CVM, suppliers are to account for all parts received, including those that may be scrapped, lost in process, destroyed in testing, etc. Certificates of Conformance must account for all parts, including any not returned.

**11. MATERIAL HANDLING AND PACKAGING REQUIREMENTS.** The supplier is responsible for material handling procedures that protects product from defects and damage. Packaging that protects product from damage is the responsibility of the supplier, unless CVM designed or provided packaging is used.

11.1. If applicable, the supplier shall maintain documentation of all CVM packaging specification requirements. This documentation shall be updated as necessary. Packaging specification records shall also contain packaging acceptance and/or approval by the CVM Purchasing and/or Quality Department.

11.2. The supplier shall develop packaging and dunnage which ensures that all parts are received free of damage. CVM may provide input to the packaging design and development, but is not liable for any nonconformance of the final package.

11.3. Consideration shall be given to preservation of product. This includes, but is not limited to, protection from oxidation, deterioration, obsolescence due to limited shelf life, etc.

11.4. For non-conforming packaging, the supplier shall have a documented system for resolving customer problems. This plan shall establish a procedure for timely review of and response to packaging problems.

11.5. If poor material handling practices or packaging design results in nonconforming product, control of nonconforming product procedures shall be followed as described in section 5.5.

**12. RESPONSIBILITY FOR COSTS INCURRED DUE TO NONCONFORMING PRODUCT.** The supplier is responsible for supplying product that meets all specifications. If nonconforming product is supplied to CVM**.**

12.1. The supplier will be responsible for short term corrective actions, including screening of product, scrap and replacement, and/or rework of the product. When feasible, nonconforming product may be returned to the supplier.

12.2. If, product must be screened, scrapped, or reworked at CVM in order to meet production scheduling, or if it cannot be returned for other reasons, the supplier is responsible for providing on-site assistance with screening and/or rework. The supplier is expected to supply such support within 24 hours of request.

12.3. If CVM is required to sort or rework supplied product to meet production requirements, the supplier will be charged at a standard hourly rate, or at the machine rate used to rework product, whichever is higher.

12.4. In addition to sorting, rework, and/or scrap costs, the supplier may also be responsible for other costs associated with the handling and disposition of nonconforming product. This may include, but is not limited to, engineering costs, manufacturing down-time, test lab costs, supervision costs, travel costs, and administrative costs

12.5. The Supplier may also be responsible for the cost of any customer related activities imposed on CVM, if the root cause is known or found to be nonconforming product from the Supplier. This includes, but is not limited to, screening of finished product at CVM's customers, field actions, and/or recall of product.

**13. SUPPLIER PERFORMANCE and APPROVED SUPPLIER STATUS.** Cambridge Valley Machining, Inc. maintains an Approved Supplier List (ASL). Maintaining a positive standing on the ASL is a key element in supplier selection. A poor rating on the ASL will result in corrective action and/or removal from the ASL.

13.1. Standing on the ASL is based on

13.1.1. Supplier's quality rating, based on number of nonconformances and repeat problems

13.1.2. Supplier's delivery rating

13.1.3. Supplier responsiveness to quality and/or delivery issues.

13.1.4. Timely support for containment of nonconformances (screening, rework, etc.)

13.1.5. Timeliness and robustness of root cause analysis and long term corrective actions to prevent reoccurrences.

13.2. Possible actions for poor supplier performance

13.2.1. Suppliers may be requested to present long-term corrective action and improvement plans to CVM management to secure continued business.

13.2.2. CVM may make on-site visits to address systemic issues, review processes, and verify corrective actions.

13.2.3. Probationary status may be imposed. This may result in a new business hold until improvement plans and corrective actions have been implemented.

13.2.4. Possible removal from the Approved Supplier List.

**14. INTERNATIONAL TRAFFIC IN ARMS REGULATIONS (ITAR): C**ambridge Valley Machining, Inc. is ITAR registered, and suppliers must comply with applicable rules and regulations.

**15. NON-DISCLOSURE AGREEMENT (NDA):** Suppliers to Cambridge Valley Machining, Inc. may be required to sign a Non-Disclosure Agreement (NDA) with CVM before being awarded any contracts. In addition, a customer-specific NDA may be required for certain customers.

**16. CODE OF CONDUCT: T**his code of conduct applies to suppliers and their sub-tier sources. It is the responsibility of the supplier to verify and monitor compliance of this code at their operation and sub-tier source operations.

16.1. **General Principle: Suppliers shall operate in full compliance with laws and regulations as applicable to business scope and activity.**

16.2. **Supplier shall ensure that persons are aware of their contribution to product and service conformity, product safety, and the importance of ethical behavior.**

**17. CYBERSECURITY REQUIREMENTS:** All US Department of Defense unclassified information must be protected per DFARS Clause 252.204-7012. Please refer to NIST Special Publication 800-171 for minimum cybersecurity standards required by US Government. By accepting an order and submitting an invoice, your organization agrees to comply with cybersecurity requirements. Failure to comply will subject you to penalties and action under the False Claims Act.

**Revision Record**

| Revision | Date | Description |
|---|---|---|
| 01 | 8/24/10 | Initial Release |
| 02 | 9/14/12 | • Added "Part Accountability and Count Verification" section.<br>• Added flow down requirements to sub-tier suppliers<br>• Added specific actions which may be taken if corrective actions are not timely or effective. |
| 03 | 3/26/13 | Added definition of a "lot" 5.8 |
| 04 | 8/5/14 | Revised paragraph 5.4 to add 20 requirement to supplier CARs |
| 05 | 11/18/14 | Expanded sections 5.12 and 5.13 |
| 06 | 11/4/16 | Removed reference to standards revisions, added regulator authorities for site visit, clarified ITAR title.<br>Added wording to 5.2.1and 5.16 added section 5.13.1.4 for P/N and revision. Added "applicable records" to 5.2.1.4. Added 5.2.1.2 for process safety. Added sections 5.13.1.7 and 5.13.2.9 |
| 07 | 5/7/17 | Added Code of Conduct section |
| 08 | 5/26/17 | Added counterfeit material |
| 09 | 8/19/19 | Added Cybersecurity Requirements section |
| 10 | 10/9/19 | Updated procedure for handling SCARS section 5.4.1.1 – 5.4.1.3 |