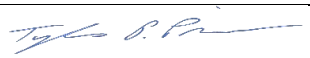
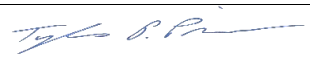
Chism Manufacturing Service
Supplier Assurance Quality Manual

Department Manager:	
Accountable Manager:	
General Manager:	

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1.0 Introduction

1.1 This document defines the Quality Assurance requirements for Chism Manufacturing Services (CMS) purchase orders. The intention is that all applicable suppliers conform to all requirements listed below. These requirements are in addition to any specific requirement listed as a note on the purchase order.

2.0 General Quality System Requirements

2.1 Quality Management System Requirements – It is preferred that the supplier's Quality system is certified to AS9100, but ISO 9001 certified is acceptable. Alternate equivalences will be evaluated on a case-by-case basis. Any supplier that is not certified to the below listed may be viewed as high risk and only chosen when deemed necessary Manufacturer/Contract, Manufacturer, Distributor, Process Supplier, Calibration/Test Lab AS9100:2016 AS9120:2016 AC 7004 ISO 17025:2017 ISO 9001:2015.

2.2 Right of Entry – At any time during the performance of the contract or for a 10-year period after the completion, CMS, CMS partnerships, aircraft manufacturers, customers and regulatory authorities reserve the right to perform audits and/or inspections at the supplier's and/or supplier's subcontractor's facility on the manufactured and/or repaired parts. Supplier material, records, process and routing sheets, manufacturing, and test and inspection facilities are subject to review by CMS and/or CMS customers (commercial, designated government representatives, regulatory authorities). When on-site verification of contract/purchase order conformance is required, the supplier shall provide the equipment, facilities, and personal necessary for the CMS representative to verify compliance.

2.3 Notification of Organizational Changes – The supplier is required to promptly notify CMS buyer in writing of any product modifications, process modifications, and/or anomalies which may adversely affect the quality, or reliability of items supplied for use by CMS. Notification shall occur within three working days of discovery of the deviation. Examples of process modifications include but are not limited to: changes in manufacturing location, MRP/ERP System, Top Level Organization and Personnel at Key Positions, Major Quality System, Major Process Changes (manufacturing, assembly, tests, inspection, and main tools), and Major Suppliers (including subcontractors) Or any changes, additions or subtractions to the BOM.

2.4 Audits and Surveys – All suppliers are required to complete a desk audit/survey or submit documentation that provides equivalent information to ensure that the supplier's quality management system is acceptable. An on-site audit may be performed to validate this information.

2.5 On-site audits will be requested at least 5 business days in advance.

2.6 If a supplier's third-party certificate expires and is not immediately renewed, the supplier must at a minimum satisfactorily complete the desk audit/survey. Suppliers without a third-party quality management system certification must complete survey annually. Suppliers with a third-party quality management system is based on certification length for AS/ISO/AC certificate.

2.7 Calibrated Inspection Tooling – Measuring equipment shall be calibrated or verified, or both, at specified intervals, or prior to use, against measurement standards traceable to international or national standards; when no such standards exist, the basis used for calibration or verification shall be retained as documented information. Suppliers are required to maintain a calibration system, including a method of recall, for measuring tools and equipment that complies with the requirements of its quality system. Any inspection method used to accept CMS product must be proven capable and accurate for the intended purpose. CMS may request inspection documentation with shipment and will be noted on the purchase order or CMS drawing if required.

2.8 Source Inspection – CMS may require the Source Inspection be performed prior to shipment. CMS will provide notification at least 4 days in advance that a source inspection will take place.

2.9 Failure to comply with product release requirements may result in a receiving inspection fee per shipment received based on CMS incurred costs or a minimum of $500 and may incur additional product rejection charges.

2.10 Supplier to provide written notification to Buyer for any assembly or manufacture of CMS designs performed outside the United States. Supplier to provide location of manufacture and applicable part numbers.

3.0 First Article Inspection (FAI) Reports

3.1 First Article Inspections, or FAI's are required for each part that is manufactured or modified for CMS. A first article inspection is a process used to determine if the production process is capable of producing parts and assemblies that meet the requirements and must be done in accordance with AS9102. Instructions, training, forms and additional information can be located on our website https://chismmfg.wixsite.com/chismmfg/DoingBusinessWithUs

3.2 FAIs must be repeated when any of the following occur:
- Drawing revision change
- A change in manufacturing source, process, inspection method, location of manufacture, tooling or material that can potentially affect fit, form or function.
- A change in manufacturing machine programming that can potentially affect fit, form or function.
- A natural or man-made event, which may adversely affect the manufacturing process.
- An implementation of corrective action required to complete a previous FAI.
- A lapse in production for two years occurs.
- A change in Sub-tiers/Source of Supply
- First time CMS has purchased parts from supplier. Products acquired by CMS through mergers and acquisitions require new full FAIs to be performed even when supplier from previous business completed FAIs.
- Upon request from CMS. This request will be noted on the purchase order

3.3 Failure to provide compliant FAI reports can result in rejection of material, rejection of documentation, and/or corrective action. Suppliers Shall provide FAIR reports prior to shipping material in order for CMS personnel to perform review. Any questions should be sent to buyer for distribution to the internal CMS team. Unless otherwise instructed, a FAIR must be approved by CMS prior to shipping the material.

3.4 FAIs are also required for any subcomponents manufactured to CMS designs. For example, a Printed Wiring Assembly (Circuit Card with Components) would require a FAI for the Assembly and the Raw Printed Wiring Board. Both must be completed to AS9102 requirements.

3.5 Printed Wiring Board Changes – CMS requires advanced notification of any and all changes to process or source of supply for printed wiring boards (PWBs). A Full FAI shall be performed per the requirements of this section and AS9102. FAI shall include at a minimum include a cross-sectional analysis validating the etchback process as applicable, and documents to validate layer thickness and copper weights.

4.0 Certificates of Conformance

4.1 A certificate of conformance (CofC) is a document certified by a competent authority that the supplied good or service meets the required specifications. A certificate of conformance or C of C is required with each shipment and must contain the following information:

- CMS Part Number & Revision Level
- Purchase Order Number and Purchase Order Line
- Quantity Shipped and Unit of Measure
- Approved Supplier Deviation form (if necessary)
- CofC for (raw) material is required with each shipment if making product from raw material or upon request.

• CofC for surface coating and paint required with shipment, if applicable.
• Any applicable industry or regulatory standard. For example, if chem film coat is required per MIL-DTL-5541, the certificate of conformance or CofC must list this standard and include the specific Type and Class as required by the CMS drawing

4.2 Certificate of Analysis – A certificate of analysis (CofA) is similar to a CofC except that it includes specific test conditions, test parameters, test specifications/expected results, and final results. A CofA can be accepted in lieu of or in addition to a CofC.

5.0 Traceability and Records

5.1 Traceability to Manufacturer – Suppliers are required to have the ability to trace material used in CMS parts to the Original Equipment Manufacturer (OEM)/Original Component Manufacturer (OCM).
What this means is that any material used to build CMS product should have a Certificate of Conformance that can be provided upon request. This request should be able to be filled within 2 business days to support customers and end users.

5.2 A source authorized by the OEM/OCM is acceptable if the Manufacturer's Certificate of Conformance is available and can be provided upon request. This includes electronic components, raw material (plastics, metal, etc.), COTS. This requirement must be flowed down to sub-tiers. Any materials/components purchased from brokers and not from an authorized distributor must be approved prior to purchase by CMS.

5.3 Unauthorized or Independent Distributors (Brokers) shall not be used without an approval by CMS. The request must be in writing.

5.4 All documentation must be numerically linked to maintain full traceability. Numerical links can be established by referencing the purchase order number, job number, lot/batch number, work order number, or serial number on all documents provided with each shipment. A part number is not considered a numerical link.
• The objective of this requirement is to ensure that CMS can identify the specific material used from the original manufacturer and if necessary, contact the original manufacturer if a problem is identified at CMS or one of its customers.

5.5 Record Retention – Records must be retained for no less than 10 years unless otherwise agreed upon by CMS Quality. This record may be digital or on paper but must be able to be retrieved within 2 working days. If the supplier is not able to meet the 10-year record retention, the supplier must provide the OEM/OCM certificate of conformance with the shipment. Supplier's with less than 10-year record retention will only be provided a limited approval.
• At the expiration of such period set forth above and prior to any disposal of records, the suppler will notify CMS of records to be disposed of and CMS reserves the right to request delivery of such records. In the event CMS chooses to exercise this right, the supplier shall promptly deliver such records to CMS at no additional cost on media agreed to by both parties. Any documentation destroyed must be securely disposed of to prevent unauthorized use.

5.6 Digital Records and Backups – Adequate backup information, processing, resources, and data should be provided to ensure that all essential business data and software can be recovered following a computer disaster or media failure.
Backup/replicated data must be stored off-site. Any physical media that is not required onsite must be stored with a secured and bonded off-site data storage service provider. The offsite data storage facilities must be at a sufficient distance and have sufficient protection to escape any damage from a localized disaster at the main site.

5.7 Providing Records upon Supplier Shutdown – If a supplier should cease operations, all traceability and quality records must be able to be provided to CMS and CMS must receive notification at least 5 business days prior to ceasing operations.

5.8 MSDS/SDS – Material safety data sheets/safety data sheets must be available upon request for chemicals as applicable.

6.0 Engineering Design, Materials and Requirements

6.1 Material Changes and Substitutions – Any requests for changes to the design, materials or requirements specified on the engineering drawing must be submitted to CMS in writing on a Supplier Deviation form prior to incorporating change into the product. Unauthorized changes or substitutions are subject to rejection at no cost to CMS. Supplier Deviation form is the only acceptable means of approval. If a drawing call out an "or Equivalent" this equivalent must be reviewed and approved by CMS.

Deviations provided through emailed instructions or over the phone and not on an approved Supplier Deviation form will not be valid.

6.2 Supplier Deviations – A Supplier Deviation form can be located at https://chismmfg.wixsite.com/chismmfg/terms-and-conditions and once completed should be sent to your buyer for immediate review. Once a disposition is made, you will be notified and receive a copy of the signed/approved deviation. A copy of the signed/approved deviation must accompany the shipment. Missing/incomplete documentation could delay receiving and payment for the shipment or product may returned to supplier for correction.

7.0 Shelf Life

7.1 Shelf Life / FIFO – All shelf-life restricted items must list date of manufacture (DOM) and date of expiration (DOE). Shelf-life requirement is 70% useable life left unless otherwise noted on Purchase Order or an approved supplier deviation.

8.0 Counterfeit Material

8.1 Counterfeit material avoidance in accordance with AS5553, AS6174, and DFAR 252.246-7007 is required for suppliers and sub-tiers. Suppliers are required to notify CMS if materials are procured from sources not authorized by manufacturer before using in CMS products. CMS must perform a risk analysis and evaluation to determine if further steps or testing must be performed on the material prior to its use.

• This requirement is not only for electronic components. This is also applicable to raw metal stock.

8.2 Components sourced through distribution must be traceable to original or authorized source and documentation must be made available within 2 working days.

8.3 If material is found to be counterfeit, supplier must provide information on the source of where said material was procured.

8.4 Suppliers may be liable for cost recoupment when unauthorized material is used in product delivered to CMS. This may include additional fees beyond material costs.

9.0 Obsolescence Management

9.1 Notification must be provided to CMS should a component's lifecycle status change to sunset, end-of-life, or if a report of counterfeiting has been documented.

10.0 Electrostatic Discharge

10.1 Any parts that are susceptible to electrostatic damage must be protected by use of material compliant to ANSI/ESD-S20.20, JESD625, or MIL-STD-1686.

11.0 Foreign Object Debris/Damage

11.1 The supplier shall ensure that Foreign Objects and subsequent Foreign Object Damage (FOD) is eliminated from all parts prior to shipment.

11.2 A program in compliance with NAS412 and AS9146 will meet the CMS requirements

11.3 Potential FOD includes but is not limited to burrs, chips, dirt, corrosion, and contamination resulting from the manufacturing, assembly, maintenance, processing, cleaning, storage, and subsequent packaging of parts.

11.4 Suppliers must ensure all passageways – cast and/or machined are clear of chips, core material, dirt, breakout of cast walls, etc.

11.5 Prior to closing inaccessible or obscured areas and compartments during assembly, supplier shall ensure the areas are free of FOD.

11.6 Suppliers must ensure all parts are clean and FOD free prior to shipment.

11.7 Suppliers are required to maintain a FOD prevention program, which includes prevention and elimination of FOD from the manufacturing processes and work area.

11.8 Specific attention should be given, where applicable, to items such as:

- Housekeeping
- Food and beverage control
- Tool and small part accountability
- Loose objects
- Material handling and parts protection
- External cleaning following evidence of external contamination

11.9 Supplier shall ensure that the responsibility for the FOD prevention program is clearly defined, and appropriate personnel have received FOD awareness training.

11.10 Suppliers are responsible for flow down of these requirements to their sub tier suppliers to ensure FOD free products.

11.11 Suppliers FOD prevention program and controls are subject to periodic audits as deemed necessary to ensure program effectiveness and compliance. This includes, but not limited to, Failure Analysis Reports, Containment and Preventive Corrective Action Plans are taken to prevent recurrence. These reports shall be made available and submitted upon request through formal notification.

11.12 For additional information regarding FOD prevention, refer to National Aerospace Standard NAS 412, "Foreign Object Damage/Foreign Object Debris (FOD) Prevention" and AS9146 "Foreign Object Damage Prevention Program".

12.0 Workmanship

12.1 Suppliers must have the necessary processes, procedures, and guidelines in place to ensure product is uniform and free of any cosmetic defects. This would include any visible scratches, blemishes, dents, burrs, dimples, paint discoloration/chipping. Rack and/or machine marks cannot be visible and must be touched up and or reworked prior to shipment (unless otherwise permitted by the drawing) for Anodized, Paint, Chern Film, and Powder Coat Parts.

12.2 Current Certifications for Special Processes (i.e. Solder)- Qualifications of employees performing special processes must have a valid current certifications or licenses.

12.3 Workmanship of Soldering- Unless otherwise noted, any soldering performed must be done in accordance with current version of J-STD-001 and inspection must be performed to IPC-A-610. Unless otherwise specified, leaded solder, 63/37 or 60/40 must be used. Unless otherwise noted all solder workmanship is expected to be Class 3. No solder bridges allowed on common traces.

12.4 Suppliers shall ref. IPC-A-630, acceptability standard for manufacture, inspection, and testing of electronic enclosures for best practices to meet requirements, as required.

13.0 Inspection and Sampling

13.1 Inspection and Sampling Plans- Any supplier developed sampling plans used for acceptance of final product must be based on a C=0 plan, where if a single part in a batch is nonconforming all subsequent parts of the same batch must be inspected 100% and nonconforming material is not provided to CMS Use of ANSI/ASQZ1.4 processes are preferred.

13.2 Suppliers are responsible for provide material that is defect free. Suppliers are responsible to ensure that any material provided to them by a sub-tier is defect free.

14.0 Preservation

14.1 Suppliers must have the necessary processes, procedures, and guidelines to protect product parts and materials during internal processing, handling, storage preservation and delivery to the customer.

14.2 Shipping and Delivery

14.2.1 Packaging, Identification, Mixed Lots- Mixed parts or lots may be packed in the same exterior box so long as each part/lot is individually packed and identified within the outer box.

14.2.2 Products must be packaged to ensure damage will not occur during shipment.

14.2.3 Exposed electronic assemblies must be shipped in ESD safe packaging. It is preferred that all shipments of circuit boards with ESD mylar bags that are resealable.

15.0 DPAS Ratings- Basic Provisions

15.1 Mandatory Acceptance: A contractor, subcontractor, or supplier shall accept a rated order when: they make the item, normal terms of sale apply, when they can meet delivery dates required by the contract. A rated order shall be accepted or rejected, in writing, within 15 working days for DO rated orders and 10 days for DX rated orders. Special requirements apply for emergency preparedness rated orders.

15.2 Mandatory Extension: Suppliers are responsible for extending the received rating to their suppliers to obtain items needed to fill rated orders or to obtain replacements of inventoried items.

15.3 Priority Scheduling: Operations, including the acquisition of all needed production items, shall be scheduled to satisfy the delivery requirements of each rated order.

15.4 CMS Notification Requirements: If a supplier has accepted a rated order and subsequently finds that shipment or performance will be delayed, the supplier must notify CMS within 24 hours, provide the reasons for the delay, and advise CMS of a new shipment date. If notification is given verbally, written (hard copy) or electronic confirmation must be provided within one working day of the verbal notice.

15.5 Rejection of DO or DX orders must be in writing (hard copy), or in electronic format, giving the specific reason for the rejection.

16.0 Nonconformance and Returned Material

16.1 Nonconforming Material including Identification- No product shipped may be nonconforming to applicable drawings and/or procedures unless approved prior to shipment. See Supplier Deviations.

16.2 Previously Shipped Nonconformance- If the supplier identifies a nonconformance that has already shipped to CMS, the supplier must contact the CMS buyer and provide written notification that includes the PO number, PO Line, Part Number, Quantity of Shipment, and the date of shipment. If the courier tracking number can be provided, it should be included as well. This notification is required within 24 hours of identification of nonconformance.

16.3 CMS will review for disposition and potential return of material to supplier. The supplier shall put in place a containment action to ensure no more product is shipped to CMS with the identified failure mode.

16.4 VRMA Handling- After a returned part is reworked or replaced, a copy of the return paperwork must be included with the return shipment. This documentation should provide details as to why the failure occurred and the preventive action taken to prevent reoccurrence. The supplier will be required to perform a full (100%) inspection of all parts returned on a VRMA.

16.5 MRR's- Material Rejection Reports are written against any non-conforming product. MRR's that are written on products delivered by suppliers are subject to be answered by what caused the non-conforming product and action(s) taken to prevent delivery of that same non-conforming product to CMS. Suppliers shall have 2 business days to provide containment actions and 10 business days to provide the "cause" and "action" of the non-conforming product(s). If the supplier does not provide the cause and action within 10 days, a CAR may be issued. Ref. 17.0 Corrective Actions. An agreed extension may be granted to allow more time for the supplier to provide cause and effect.

17.0 Corrective Actions

17.1 Corrective action requests (CAR) may be issued to suppliers for product, process or systemic nonconformance are found.

17.2 Corrective actions may be issued due to repeat product nonconformances, failure to adhere to requirements in this manual, process failures detected after shipment, or returns from CMS customers where it has been determined that the supplier was at fault.

17.3 Supplier has 30 calendar days from the date of CAR issuance to provide an acceptable response for root cause and corrective action.

17.4 Containment actions to correct any items in process, in stock, or at the supplier must be taken prior to shipment of additional product and must be provided within 5 business days after issuance of CAR.

17.5 Verification of corrective actions must be performed to ensure the effectiveness is achieved.

17.6 Failure to provide adequate response or put into practice any identified corrective actions can result in the termination of the purchase order and reduction or elimination of future purchase orders.

18.0 Flow down

18.1 Should a corrective action not prove effective by way of repeat occurrence with the same root cause, CMS reserves the right to charge "Cost of Quality" fee for cost incurred in verifying product quality and administering quality inspections, documentation, and reporting.

18.2 Suppliers will flow down all applicable requirements of the purchase order to their suppliers to ensure conformance with all specifications, drawings, quality system requirements, regulations, public law, and other requirements as may be specified in the purchase order. Suppliers are responsible for any work performed by sub-tiers.

18.3 Suppliers will incorporate into each lower tier contract issued in support of the purchase order all applicable FAR and DFARS clauses in accordance with the flow down requirements specified in such clauses.

18.4 Contribution to Quality- Suppliers must ensure that employees and sub-tier suppliers/external providers are aware of:

- their contribution to product or service conformity
- their contribution to product safety
- the importance of ethical behavior

19.0 Supplier Ratings

19.1 Supplier Rating Scoring Criteria – CMS tracks Quality and On Time Delivery (OTD) to create Supplier Rating Score.

19.2 Quality performance is 75% of total score with OTD the remaining 25%.

19.3 Quality performance is determined by the quantity of acceptable parts in a lot. If the parts are inspected 100% and it is determined that only half of the supplier's parts for that shipment are acceptable, then the supplier is awarded 37.5 points for that shipment. If the parts are inspected on a sampling plan and are rejected, the entire lot will be rejected. Zero points will be award for quality performance for this shipment.

19.4 On Time Delivery performance is determined by the date which the parts are received into the CMS ERP system. The date may not be the same as the delivery date from the courier as there may be additional circumstances preventing receipt such as missing documentation (CofC, Supplier Deviation, etc.).

19.5 Up to the date of 4 days after the delivery date on the CMS Purchase Order, 1 point is deducted. Additional points may be deducted for further late delivery based on the table below.

Days Late	% Pts Deducted
4	1
5	5
10	10
20	25

19.6 If the supplier delivers material 20 days or more before the due date, 6 points will be deducted. Contact your buyer before shipping product early.

19.7 Any differences in delivery scoring between CMS and the supplier will be reviewed by the CMS purchasing group. The CMS purchasing group may adjust dates on a case-by-case basis.

19.8 On a quarterly basis, CMS will review the supplier's previous 90-day performance and rolling 12- month performance.

19.9 In the event the supplier's acceptance rate falls below 90%, CMS reserves the right to place the supplier on a 60-day probation for the purpose of correcting the issues that caused the decline. If individual deliveries during such probationary period fall below a 95% acceptance rate, CMS reserves the right to terminate the current purchase order pursuant to the conditions listed in the below paragraphs.

19.9.1 For the purpose of this clause, acceptance shall be defined against conformance of the delivered product to the item's drawing and testing specification revisions as listed. The score will be cumulative across all quantities delivered on all deliveries during the previous 30-day time frame. For example, if one delivery has 5 failures out of 10 units and another delivery has 0 failures out of 100 units, total rating shall be 95.4% (105 ÷ 110).

20.0 Purchase Order / Contract Information

20.1 Should CMS decide to terminate the purchase order due to either of the above listed conditions, CMS liability is limited only to supplier's original purchase price for raw materials associated with the remaining quantity on the purchase order, subject to the acceptance of said components through CMS quality management system. Should CMS'S AP account with supplier show a negative balance due to non-return of RMA units; CMS shall deduct that value from any outstanding or future liabilities with supplier or shall issue a debit note or invoice of the open balance to the supplier which shall be paid by the supplier within thirty (30) days following receipt of such debit note or invoice.

21.0 Conflict Materials

21.1 If supplier is providing goods, supplier shall use commercially reasonable efforts to Identify whether such goods contain tantalum, tin, tungsten, or gold. Conduct a reasonable country of origin inquiry regarding the origin of such minerals in such goods to determine whether such minerals originated in covered countries, as defined in section 1502 of the DODD-FRANK wall street reform and consumer protection act. Conduct due diligence on the chain of custody of the course of any minerals originating in covered countries to identify the smelter of said minerals. Assist buyer in conducting reasonable due diligence concerning the smelters of such minerals

21.2 Supplier shall include the statement of conflict minerals in any agreement between supplier and its lower tier suppliers. Supplier shall provide buyer with reasonable documentation of supplier's and its lower tier suppliers' due diligence efforts, in a format prescribed by buyer, when requested by buyer.

For additional terms and conditions see T & C'S at https://chismmfg.wixsite.com/chismmfg/DoingBusinessWithUs

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Revision History

Rev	Date	Section	Paragraph	Summary of change	Authorized by	Authorized by
A	03/20/2025			Initial issue	PH	TP

Management Approvals and Sign Off's

Department	Approve	Date	Name	Signature
General Manager	☑	04/03/2025	Patrick Hall	
Quality	☑	04/03/2025	Tyler Price	
Operations	☑	04/03/2025	Randy Beeman	
Engineering	☑	04/03/2025	Jorge Barron	
Purchasing	☑	04/03/2025	Caterina Allen