QUALITY CLAUSES

R&D ELECTRONICS, INC.
PRODUCT ASSURANCE REQUIREMENTS FOR PURCHASE ORDERS

The following terms apply as indicated on the face of Purchase Orders. In the event any term cannot be met, notify R&D Inc.'s Purchasing Agent immediately.

1. Reservation of Government, Regulatory Authorities and Customer Rights: During performance on this purchase order, your inspection system and manufacturing processes are subject to review, verification, inspection and analysis by authorized Government Representative, Regulatory Authority and/or R&D's customer. Government/Customer inspection or release of product prior to shipments is not required unless you are otherwise notified.

2. Optional R&D Source Inspection: R&D source inspection reserves the right to inspect any or all the materials on this purchase order. If the supplier is notified in writing by R&D of mandatory inspection points, the supplier will be required to notify R&D Quality Control 48 hours in advance. Shipments shall not be made without accompanying source release inspection stamp by R&D Representative, or a waiver issued by R&D Quality Control office. Copies of the purchase order with change orders and related documents shall be made available to the R&D Representative upon request.

2a. R&D Inspection: R&D Source Inspection is required on this order. All items are subject to in-process surveillance by R&D Quality Control Representative. Shipments shall not be made without source release inspection by R&D. The supplier shall notify R&D Quality Control 48 hours in advance of designated Mandatory Inspection Points. Copies of the purchase order with change orders and related documents shall be made available to the R&D Representative upon request. The First Article Inspection Report must show evidence of R&D Source acceptance and must accompany the first article shipment.

Note: Source release does not constitute final acceptance, which is performed upon receipt and inspection of the item at the designated R&D receiving department.

3. Government Inspection: "Government inspection is required prior to shipment from your plant. Upon receipt of this purchase order, promptly notify the Government Representative who normally services your plant so that appropriate planning for Government inspection can be accomplished." The Government QAR shall also be notified 72 hours in advance of the time articles and materials are ready for inspection or test. The supplier shall furnish copies of purchasing documents to the Government Representative upon his request. In the event the representative or office cannot be located, our purchasing agent should be notified immediately.

4. Certificate of Compliance: A Certification of Compliance (C of C), signed by a supplier's representative, must accompany each lot of parts delivered to R&D Electronics. This C of C is an indication that all requirements of the associated purchase order, drawing (s) and specification(s) have been met. The C of C must contain, as a minimum:
   - Name and address of supplier

- Description of the part (if applicable)
- Part number and revision
- Quantity of acceptable parts

R&D Electronics purchase order number

- Serial/Lot number, if applicable
- Conformance Statement.

4a. Hardware Certification-Distributor: For each item on this purchase order, the supplier shall submit a legible copy of the manufacture's certification for the hardware supplied and state that the hardware supplied was manufactured and acceptance tested in accordance with the applicable specifications. Distributors shall make every attempt to purchase material direct from the manufacture. When such is not possible, the distributor will provide documentation that identifies all distributors and the manufacture with each shipment.
Catalog Item Information: Complete catalog and/or drawing data/information for all: a) electrical, b) dimensional, c) physical, and d) chemical properties, as applicable shall be furnished with each lot shipment to R&D Electronics.

4b. Certificate of Conformance (CoC) for QCS-001 Processing Sources (LM Aero):
Seller must submit a Certificate of Conformance with a unique certification number containing the following information:

- Title and specification number (including revision letter) of the process
- Name and address of the process or non-destructive testing ("NDT") facility
- Seller's supplier's unique LM Aero identification number ("vendor or processor code")
    - If processor is utilized based on a Nadcap approval, a statement to the effect "Source utilized based on current Nadcap accreditation" shall be included
- Date the CoC was issued
- Purchase order part number
- Quantity of parts (to include quantity accepted/rejected)
- Signature and title of authorized quality agent of Seller
- Fracture durability classification or serialization, when required

5. Packaging: The supplier's Quality Control organization shall be responsible for ensuring that items of this procurement are packaged in such a manner that the dimensional integrity is preserved, contamination and corrosion are prevented, and no physical damage occurs, or when specified, that packaging is in accordance with the applicable Packing, Handling, Storage, and Transportation and requirements documentation cited in and attached to the order.

6. Limited Life/Age Control: All items with limited shelf life shall be clearly marked with the manufacture's name, type of material, shelf life, date of manufacture, and usability limiting date. A minimum of 75% of shelf life shall be remaining on all items on this order. If items have no shelf life limitations, supplier shall so state in shipping documents. NOTE: The vendor shall supply the Hazardous Material identification System (HMIS) and the Material Safety Data Sheet (MSDS) with the material as required.

7. Material Control: If material or hardware is supplied by R&D, a copy of the R&D shipping document must accompany your return shipment to R&D along with a certification that hardware was procured from the material supplied by R&D. In either case all certifications must be dated

and signed by an official of your organization. ALL unused material (including any drop) supplied by R&D must be returned to R&D identified with the Purchase Order number, and material type unless otherwise directed by R&D buyer.

8. Material Traceability: Submit with each shipment a certificate of conformance stating: The material type, applicable specifications, lot/heat number, date code, serial number and the manufacture of the material. The seller must be able to trace these materials to all delivered items.

8a Chemical & Physical Reports: A manufacturer's test report must accompany this item and include the following information:

- Manufacturers name and address
- Part number with revision
- Chemical analysis with actual test values
- Tensile, shear, harness with actual test values (as applicable)
- Verification of special processes per the drawing requirements (i.e., heat treat, NDI, passivation, coatings, finishes, etc.)

The test report must be signed or stamped by a representative of the manufacturer. If the supplier is not the manufacturer, the supplier may provide a photocopy of the original manufacturer's test report.

8b. X-ray Data: (MFC-DC-012): Seller shall submit x-ray technique sheets, x-ray film or digital copy, and x-ray lab report for Buyer approval prior to shipping the first article. The technique sheet shall identify the method of technique (conventional/digital). The Buyer R&D) shall obtain approval from the customers NDT experts. All items shall be permanently marked with the applicable X-ray control number in accordance with ASTM E 1742 paragraph 6.34. X-rays shall be retained on file by the seller and made available for Buyer's review upon request.

9. Functional Test Reports/Verification: When functional tests are specified by this purchase order or by the design documentation, the actual test results shall be submitted.

10. Supplier Process Change Control (MFC-CC-0011(6May2017)) Some or all of the products acquired under this agreement will be incorporated into higher level assemblies that may be subject to stringent "qualification testing" requirements for critical government applications; even minor changes to Seller's products or processes may necessitate "requalification" or produce unacceptable results in higher level assembles. Since the impact of any such product/process change can be most efficiently assessed prior to product integration into higher level assemblies and the potential cost of remediation/retrofit activities for end products deployed worldwide could be substantial, as a cardinal commitment under this contract Seller expressly commits to: 1: Maintain a robust sourcing/quality process for the products delivered hereunder; 2: Include provisions with its sub-tier suppliers that are adequate to implement the requirements of tis provision. 3: Rigorously comply with the notification requirements specified:

- Prior Approval/Notification of Form/Fit/Function/Material changes:
  - Prior Approval: Seller shall not implement or deliver to Buyer products incorporating any alterations to product form, fit and /or function without the express written approval of the Buyer.
  - Notification: Prior to delivering any products incorporation a material change, Seller shall provide advanced notice to Buyer as they become aware and allow sufficient time to reasonably evaluate the proposed change.

11. Special Process Approvals: Where R&D's Customer requires the flow down of specific purchase order notes applicable to special processes those special process suppliers used will be required to be on R & D Electronics' Customers Approved Special Process Supplier List. Contact R&D Material Manager for the Customers Approved Special Processes Supplier List.

11.1 Special Processes: Seller Control of Sub-Tier Special Process for Major Sub-Contractors (LM 1836; MFC-DC-021 (28Sep2022))

Special processes referenced by specifications within the Buyer's /Customers Engineering Design shall be identified, documented, and maintained by the seller.

Special Process Definition – A documented method used to manufacturer products where:

When a product undergoes a physical, chemical or metallurgical transformation or inspection, conformance to the specification cannot be readily verified by normal inspection methods, and the quality of the products depends on use of specific equipment operated in a specific manner, under controlled conditions, by trained personnel with instructions, procedures and standards.

"First-Tier (Seller)" Any special processes performed under this contract by the Seller for welding, brazing, additive manufacturing, and Customer Controlled Special Process Specifications shall be approved in R&D's customers approved suppliers data base. This requirement shall be flowed down to related sub-tier suppliers. All other remaining special processes performed under this contract by Seller require either Buyers Customer approval or Nadcap accreditation.

"Sub-Tier" Welding, brazing and additive manufacturing: Sub-tier suppliers used to perform any Controlled Special Process shall be approved in R&D Customers Approved Supplier data base.

11.2 Special Process Approvals: (LM1838 ; MFC-DC-020 28SEP2022)):

Special processes referenced by specification within the Lockheed Martin engineering design shall be identified, documented, and maintained by the seller. Special Process Definition – A documented method used to manufacture products where when a product undergoes a physical, chemical, or metallurgical transformation or inspection, conformance to the specifications cannot be readily verified by normal inspection methods, and the quality of the product depends on use of specific equipment operated in a specific manner, under controlled conditions, by trained personnel with instructions, procedures and standards. All suppliers used in Welding, Brazing, Additive Manufacturing and Engineering drawing Controlled Special Process Specifications shall be approved in RI&D's Customer Approval data base.

11.3 Special Processes; Seller Approved for Major Sub-Contractors (LM1837; MFC-DC-023 (28Sept2022))

When using Buyers provided engineering specifications/design to produce the item9s) under contract shall identify, document, and have sole control over any and all special processes/special processors referenced by specification in the design. Special Process Definition – A documented method used to manufacture products where when a product undergoes a physical, chemical, or metallurgical transformation or inspection, conformance to the specifications cannot be readily verified by normal inspection methods, and the quality of the product depends on use of specific equipment operated in a specific manner, under controlled conditions, by trained personnel with instructions, procedures and standards.

Seller shall be responsible to assure all special process providers are capable and qualified to perform the special process in accordance with specification requirements.

Objective evidence of surveys shall be retained by the Seller and is subject to the Buyers periodic audit or request.

A copy of the special provider's certificate of conformance that certifies each process was accomplished in accordance with the applicable specification shall be available for review by the Buyer as objective evidence the special process was performed to the specification requirements.

12. Documentation Maintenance: The supplier shall retain objective evidence of the item supplied (Manufacturing, assembly, inspection, test, and special process records) for seven (7) years after the contract is complete. These records shall be made available to R&D upon request. Records may be archived to an offsite location but shall remain legible and readily retrievable. R&D reserves the right to periodically audit the seller's historical records, retention policies and practices.

13. N/A

14. Quality / Inspection System: The supplier shall maintain a Quality System that meets the requirements of AS9100, ISO 9001: 2015, (ISO) ANSI Q9002, AS9003, and ISO 9003 or as a minimum, MIL-I-45208. Manufacturers shall certify parts and material that were inspected and comply with applicable drawing specification and purchase order requirements. Authorized Distributors providing items must maintain manufacturing records indicating test and other manufacturing data to reflect manufacturer's compliance to AS9100, AS9120, ISO9001, Q9003 or MIL-I-45208 as a minimum.

15. First Article Inspection: A First Article Inspection (FAI) is required in addition to inspection requirements elsewhere in this purchase order. First article inspections shall be performed in accordance with the latest revision of Aerospace Standard (AS) 9102. A FAI shall be conducted by the seller and objective evidence submitted with each shipment. The FAI shall consist of: FAI shall be performed by the Seller in accordance with the latest revision of Aerospace Standard AS9102. Seller shall utilize the current AS9102 forms, or equivalent, including:

Form 1 – Part Number Accountability
Form 2 – Product Accountability – Materials, Special Processes and Functional Testing
Form 3 – Characteristic Accountability, Verification and Compatibility Evaluation

16. N/A

17. Inspection: The supplier shall generate and maintain records and data of all inspections and test performed. Records shall disclose the status of articles, materials, evidence of inspections, tests performed, and include dates. 100% inspection shall be performed on all critical and major characteristics and interface control points. This data is to be recorded in the unit of measure as indicated on the drawing. Sampling iaw MIL-STD-1916 or ANSI/ASQ Z1.4 shall be used.

Dimensional inspection data for all critical/major characteristics and indication of acceptance for minor characteristics shall be included in an inspection report on items delivered under this purchase agreement/order. This report shall reference part number, revision level, serial numbers, and purchase agreement/order number.

Minimum level of inspection shall be: 100% for critical characteristics, 1.0 AQL level II, ASQ Z1.4 for majors, and 2.5 AQL level II, ASQ Z1.4 for minors (all other than critical or major), Sampling iaw MIL-STD-1916.

When required on the drawing, an inspection report with a Certificate of Conformance for magnetic particle inspection, radiograph inspection (including film for each casting), fluorescent penetrant inspection, ultrasonic inspection, pressure test, and grain flow results shall be submitted.

18. Calibration System: The supplier shall have a calibration system/program which meets the requirements of MIL-STD-45662, ISO 100012-1, and/or ANZI 540.1. Certificate of Compliance (Calibration) shall state demonstration of standard used.

19. N/A

20. Electrostatic Discharge Control (ESD): The supplier shall be responsible for assuring that parts are procured, handled and packaged in accordance with "Electrostatic Discharge Control", DOD-STD-1686, DOD-HDBK-263 or ANSI/ESD S20.20-1999.

21. N/A

22. N/A

23. Specialty Metals: The supplier shall certify their product meets the requirements of DFARS 252.225-7014, *Preference for Domestic Specialty Metals*, providing only products that contain specialty metals that are in compliant with the DFARS clause.

24. Pure Tin Restriction:

The use of unalloyed or pure tin in the internal or external construction of electrical, electronic, and electromechanical (EEE) parts is prohibited without Buyer written approval. Product that does not contain any tin or tin alloys meets the requirements of this Purchase Order (PO) note. Tin-plated electrical wire compliant to applicable military or industrial standards is considered standard and is not restricted.

The solder, plating and coating of the products supplied on this purchase order shall meet the following:

1. The solder used shall contain a material composition of less than or equal to 97% tin by weight and the remainder shall be any combination of silver and/or lead.

2. All plating or coating utilized to manufacture the deliverable hardware shall contain a minimum of 3% lead by weight; this includes all associated hardware that is a part of a EEE component.

Definitions:

Solder: A metal alloy with a melting temperature that is below 427°C [800 °F].
Plating/coating: a thin layer of metal such as tin deposited on or applied to a single surface.

Examples: electrolytic plating, solder dipped leads, solder dipped housings

The Seller shall notify the Buyer's Procurement Representative prior to any change by the Seller or its Sub-Tier(s) that would result in products specified in this PO becoming noncompliant by incorporating this requirement. Also, notify Buyer's Procurement Representative if this

requirement conflicts with the Engineering specified for products ordered under this PO. Noncompliance to this requirement must be approved in writing from the Buyer prior to acceptance of this PO.

25. First Article Inspection: (first time suppliers): The supplier is required to perform 100% inspection and record variable (actual) data for the first article manufactured to the configuration specified on this order. An inspection report and any associated data (material certs, test reports, etc.) shall be delivered along with the first article shipment. This data is to be recorded in the unit of measure as indicated on the drawing. The inspection records shall identify all drawing characteristics, the allowable tolerance limits and the actual dimensions measured.

26. Quality Management System: ISO Q9001 or AS9100 Quality Program requirements and compliance thereto are applicable to this purchase order and are subject to review/audit.

27. Foreign Object Debris/Damage Prevention:

Seller shall develop and maintain a Foreign Object Debris/Damage ("FOD") prevention program for manufacturing areas. The intention is to prevent introduction of foreign objects into any item delivered under this Purchase Order (PO). National Aerospace Standard 412 (NAS 412) is available as a guideline.

Seller shall employ appropriate housekeeping practices to assure timely removal of residue/debris generated, if any, during manufacturing operations and/or normal daily tasks. The Seller's FOD program shall be proportional to the sensitivity of the design of the product(s) to FOD, as well as, to the FOD generating potential of the manufacturing methods.

28. Work: Seller agrees that the work produced internally and/or the work procured from sub-tier suppliers under this contract shall comply with the following requirements unless a documented request for change is approved by an R & D Electronics procurement representative.

1. Work shall not be moved from the original location of manufacturer to another location of manufacture within a production facility or to any other production facility.
2. Where first article inspection is required, work shall not be moved from the original location where the product was produced at the time of first article inspection acceptance.
3. No changes shall be made to the design, manufacturing processes, materials or activities that affect fit, form, or function.
4. A fit, form or function analysis shall be performed, documented, and included with any request for change.
5. A documented process shall be in place to review, identify and submit a request for change to R & D Electronics procurement representative. Such notification shall not constitute approval of the proposed changed nor relieve supplier of supplier’s obligation to comply with requirements contained in this contract. If the proposed change is approved, the change shall be incorporated into the purchase order by amendment.
6. The establishment of process controls and development of control plans where key characteristics have been identified.

29. Control and Notification of Non-Conforming Product: Upon discovery, the Supplier shall segregate and control non-conforming material to prevent unauthorized shipments of such material to R & D Electronics. The supplier shall immediately notify R & D Electronics in the event of nonconforming material that cannot be reworked or replaced to purchase order requirements by the supplier. The supplier shall hold the material until R & D renders a disposition. The disposition shall e referenced on the Suppliers shipping document with each applicable shipment.

29a. Control and Notification of Non-Conforming Tooling/Equipment: Upon discovery of out of tolerance tools/equipment during the calibration process, immediately notify the Quality Department of the nonconformance.

30. Specifications and Standards: Military specifications and standards reverenced shall be to the latest revision level in effect on the date of this order, unless otherwise specified.

31. Requirements Flow-down: The seller shall have systems and methods to assure full compliance to all Purchase Order PO Quality Clauses applicable to this PO. When products or services applicable to this PO are procured by the seller from sub-tier suppliers, the seller agrees to flow down the appropriate requirements to the sub-tier. The appropriate requirements include but are not limited to key characteristics, control of special processes, record retention and flow down of Quality System. The seller shall flow the Quality PO note requirements as necessary to assure full compliance is achieved.

32. Counterfeit Part Prevention

Sourcing:

Seller shall only purchase products to be delivered or incorporated as work to the Buyer directly from
i. the Original Component Manufacturer (OCM)
ii. Original Equipment Manufacturer (OEM)
iii. through an OCM/OEM authorized suppliers (distributor)
iv. or from suppliers that obtain such parts exclusively from the original manufacturer of the parts or their authorized dealers with no intermediaries.

Seller may use another source only if:
i. the foregoing sources are unavailable,
ii. Seller's inspection and other counterfeit risk mitigation processes will be employed to ensure the authenticity of the work,
iii. the suppliers meet applicable DOD-adopted counterfeit prevention industry standards and processes (including tests) and;
iv. Seller obtains the advance written approval of Buyer.

Approval to use another source other than defined above requires the submittal of a comprehensive risk mitigation test and inspection plan to the Buyer's Procurement Representative. The risk mitigation plan shall define appropriate tests and inspections, as well as acceptance criteria, to validate the products authenticity.

Test results shall be reviewed and approved by the Buyer's Quality Engineering prior to shipping or incorporating into deliverable hardware.

Counterfeit Prevention Processes:

Seller shall develop and implement a counterfeit product control plan using industry recognized standards applicable to the product being delivered as guidance. The plan shall be available for the Buyer review upon request.

The Seller's counterfeit avoidance and detection systems are subject to Buyer and/or Buyer's customer audit and approval.

Traceability:

Seller shall implement systems that assure traceability of all material from the original manufacturer to product acceptance by the Buyer.

For electronic parts, Seller shall have processes that enable tracking from the OCM, OEM or the OCM/OEM authorized suppliers, whether the electronic part is supplied as a discrete electronic part or is contained in an assembly.

This requirement applies to all work delivered to the Buyer either directly or indirectly as components or included in assemblies.

This entire note, or requirements that meet the intent of this note, shall be flowed down to all sub-tier suppliers under this contract and the Seller shall provide evidence of compliance to this note upon request.

33. Order Processing: Processing to be accomplished in performance of this purchase order is directly related to Lockheed Martin Aeronautics Company purchase order and must be accomplished in accordance with process specification(s) on this purchase order and Lockheed Martin Aeronautics Company Appendix QJ. All requirements of such Appendix QJ paragraph 12. a. – f. shall be accomplished. Appendix QJ is located at: http://www.lockheedmartin.com/aeronautics/materialmanagement/

34. Requirements Flow Down: This is a result of a rated contract certified for national defense. The supplier is required to follow all provisions of the Defense Priorities and Allocation System Regulation (15CFR799). The rating(S) is specified on this purchase order.

35. Certificate of Origin: (C of O): A Certificate of Origin (C of O) for all items produced or manufactured in the USA, Canada, or Mexico is required to be provided. The C of O shall be signed by the Corporate Officer or authorized employee of the manufacturer having direct knowledge of the origin of the product. The following information must be clearly recorded on the C of O:

1). Letterhead including the Manufacturer's name, address, phone and fax number.
2). Date of C of O issuance.
3). Printed name, title and signature of Manufacturer Official certifying all data on the C of O.
4). R&D Electronics purchase order number along with the applicable prime contract number. This will be located on the suppliers purchase order.
5). Part number as listed on the purchase order.
6). Manufacturer's part number (if different).
7). Product description.
8). Country of Origin address
9). Manufactured since / / (enter date)

For all products manufactured outside the three countries listed above, a C of O is not required. However, the country of origin must be clearly identified on the part. For products that cannot be marked or are on the J-List under CFT Sec 135.33, the container must be marked with the country of origin. The marking must be permanent, legible, and conspicuously located. The packing list must clearly identify the country of origin for each line item. Payments to supplier may be delayed or products may be returned to supplier if deliveries on this purchase order are missing country of origin markings or have noncompliant certificates of origin.

36. Supplier Corrective Action Request: Seller agrees to provide a formal response to any supplier corrective action request (SCAR) within the timeframe indicated on the SCAR. Seller is also requested to contact the buyer of record when the material associated with the SCAR investigation has not been returned by buyer to seller or more time is required to adequately perform an investigation (request for extension). Failure to provide a formal response to a SCAR within the established due date may adversely affect your supplier approval status for future procurements.

37. Product Substitution (MFC-PR-018): No substitutions permissible, parts must be exactly as ordered (i.e., failure rate, reliability, tolerance, etc.). If better parts are received, they will be rejected and returned to Seller at Seller's expense.

38. Five Year Date Code Age Limit on Components: All Electrical, Electronic, Electromechanical Components (EEE) parts supplied must have a manufactured lot/date code that is within five (5) years of receipt by Buyer. Manufactured lot/date code must be indicated on either parts or documentation provided and marked or labeled as such. Parts with lot/date code older than five (5) years' documents shall be reviewed and approved by Buyer's Quality Representative prior to shipping of deliverable hardware.