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Stellar Blu Solutions Group

Supplier Manufacturing Quality Requirements

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Signature Sheet

This document has been prepared / revised in co-operation with the Stellar Blu Solutions Group Organisational Units involved. The co-signatories confirm with their signature, that the content is technically correct and will be applied.

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Record of Issues / Revisions

Issue	Rev	Date	Affected		Reason for Change
			Page	Section	
A	00	2023-05-26	All	All	First Issue
A	01	2023-06-23	All	All	Email address updates and minor alterations to section 6.3.4.3 needed. DSA abbreviation and definition inputted.
B	00	04-08-2023	8, 12 11 11	6, 7.2.5 7.2.2 7.2.3	Obsolescence Management Plan section added. Wording added to table in Section 6. Number formatting updated for entire document. Reference document section moved to Section 6. FMEA requirements for suppliers clarified. Cp/Cpk summary frequencies updated from quarterly to monthly.

SUPPLIERS SHALL REVIEW AND ADHERE TO ALL RELEVANT CLAUSES

1 Purpose

The purpose of this document is to define the quality requirements to be followed by all Stellar Blu Manufacturing suppliers. Stellar Blu must ensure that all suppliers used are capable of supplying Manufacturing products for safe operation to the customer. This document serves as an outline of minimal quality system activities and quality performance expectations required in the delivery of supplier parts with the required documentation.

2 Scope

This document is applicable to all suppliers who provide products or material to Stellar Blu. The supplier must ensure that Stellar Blu requirements stated herein are reviewed, analysed, adhered to, and flowed down internally to its sub-tier suppliers as relevant. It applies to production and prototype articles (engineering test/development articles are excluded) manufactured by Stellar Blu approved suppliers of airborne articles.

All clauses referenced herein are a constituent part of the PO and shall not be considered subordinate documents.

3 Responsibilities

Supplier shall comply with the latest revisions of Stellar Blu supplier quality requirements, and other documents referenced herein. Supplier shall establish compliance within 90 days of the document effective date unless otherwise specified in the Audit Report issued by Stellar Blu Quality department.

Stellar Blu must contractually define and regulate all tasks and responsibilities of the supplier, including cascading down all the applicable statutory, customer's and quality requirements.
Stellar Blu Supply Chain and/or Quality is responsible for providing this document to potential and current suppliers.

For suppliers' purposes, this document is a controlled document, and the official copy and revision level exists on the Stellar Blu SharePoint. The SBS Quality Department is responsible for updating and maintaining this document. SBS Supply Chain is responsible for providing the latest revision of this document to potential and current suppliers.

All printed/downloaded copies shall be considered uncontrolled.

4 Terminology

The following terminology is used throughout this document to define levels of applicability:

- ***Shall*** and ***Must*** indicates a requirement that is a contractual binding provision.
- ***Will*** indicates a declaration of intent that is a non-contractual binding provision.
- ***Should*** and ***May*** indicate a guideline that is a recommended, or an allowed provision.

5 Abbreviations

ALT	Accelerated Life Test
ANSI	American National Standards Institute
APQP	Advanced Product Quality Planning
AS	Aerospace Standard
ASN	Advanced Shipping Notice
ATA	Air Transport Association
ATP	Acceptance Test Procedure
BOA	Basic Ordering Agreement PA Procurement Agreement
CDR	Critical Design Review
CE	Chief Executive
CoC	Certificate of Compliance.
COTS	Commercial Off The Shelves
CTQ	Critical to Quality
CVE	Compliance Verification Engineer
DAS	Design Assurance System
DFMEA	Design Failure Modes & Effects Analysis
DO	Design Organisation
DOA	(EASA) Design Organisation Approved
DOID	Design Organisation/Office Interface Document
DPPM	Defective Parts Per Million
DSA	Direct Ship Authorization
EASA	European Aviation Safety Agency
ERP	Enterprise Resource Planning
FAA	Federal Aviation Administration
FAI	First Article Inspection
FIFO	First-In-First-Out
HALT	Highly Accelerated Life Test
IMDS	International Material Data System
ISO	International Standards Organization
JIS	Job Instruction Sheet
KC	Key Characteristics
KPI	Key Performance Indicator
LOB	Line of Balance
LPA	Layered Process Audits
LRU	Line Replaceable Units
MSA	Measurement System Analysis
MSDS	Material Safety Data Sheets
NDA	Non-Disclosure Agreement
OEE	Overall Equipment Effectiveness
OOT	Out Of Tolerance
PCP	Production Cycle Process
PDR	Preliminary Design Review
PFD	Process Flow Diagram
PFMEA	Process failure Modes & Effects Analysis
PMA	Parts Manufacturing Approval

PO	Purchase Order
PO	Purchase Order
POA	Production Organisation Approval
PPAP	Production Part Approval Process
PPM	Parts Per Million
QAA	Quality Assurance Agreement
QCL	Quality Check List
QMS	Quality Management System
R/A/G	Red/Amber/Green
RFQ	Request for Quote
RPN	Risk Priority Number
SAE	Society of Automotive Engineers
SBS	Stellar Blu Solutions
SCAR	Supplier Corrective Action Request
SOW	Statement of Work
SPC	Statistical Process Control
TPM	Total Productive Maintenance
UUT	Unit Under Test
WIP	Work-In-Progress

6 Relevant Reference Documents, Forms & Records

Stellar Blu Solutions Documentation:

QMP-03-10-01	Stellar Blu FAI Procedure
QPI-17-03-00	Advanced Product Quality Planning
QF-03-44-00	Notification of Escape
QF-03-36	FAI Form
QF-18-01	PPAP Submission

External Documentation:

AS/EN9100	Quality Management Systems – Requirements for Aviation, Space and Defence Organisations
ARP9134	Supply Chain Risk Management Guideline
AS9115	Deliverable Software Requirements
AS13001	Delegated Product Release Verification Training Requirements
AS13002	Measurement System Analysis Requirements (MSA)
AS5553	Counterfeit Electrical, Electronic, and Electromechanical (EEE) Parts; Avoidance, Detection, Mitigation and Disposition
AS9015	Supplier Self Verification Process Delegation Programs
AS9102	Aerospace First Article Inspection Requirement
AS9103	Aerospace Variation Management of Key Characteristics
AS9117	Delegated Product Release Verification
AS9138	Aerospace Statistical Product Acceptance Requirements
AS9145	Aerospace Requirements of Advanced Product Quality Planning and Production Part Approval Process (APQP & PPAP)
AS9146	Foreign Object Damage (FOD) Prevention Program
AS9162	Aerospace Operator Self-Verification Programs
J1739	Potential Failure Mode and Effects Analysis (FMEA) Including Design FMEA, Supplemental FMEA-MSR, and Process FMEA

7 Supplier Manufacturing Quality Requirements

7.1 General Organization and Management Structure

7.1.1 Quality Management System (QMS) Requirements

Requirements shall be in effect for those suppliers who manufacture on behalf of, directly supply material for, or provide special processes to Stellar Blu, regardless of tier.

- For all manufacturing suppliers, the Supplier shall have a third party certified AS/EN9100 Quality Management System (QMS) or as a minimum be compliant to the requirements of AS9100 standards.
- For all Supplier's Distributors a third party AS/EN9120 certification is required. Suppliers acting as distributors with AS9100 certification must have scope of approval that includes Distribution if AS9120 certification is not held.
- Special Process Suppliers shall have a quality system that conforms to AS/EN9100 or accredited to Nadcap Aerospace Quality System AC7004
- ISO 9001 Third Party Certification, as a minimum, is required for Suppliers providing:
  a. testing support equipment
  b. manufacturing support equipment
  c. commercial-off-the-shelf (COTS) hardware
  d. prototype parts

7.1.2 Supplier Competency

7.1.2.1 Capacity Analysis

Supplier must provide evidence of its manufacturing capability and capacity to handle Stellar Blu's demand requirements. They shall complete a capacity analysis that:

- Demonstrates production can perform to Stellar Blu's Forecast Demand.
- Identifies and understands the capacity at all bottlenecks operations.

Incorporates the following risk factors:

- Quality Performance (First Pass Yield)
- Planned Preventive Maintenance
- Unscheduled down times

7.1.3 Right of Access

The supplier shall provide Stellar Blu, and/or a specified third party (customer/regulatory agency), right of access to the facility and all records related to product ordered by Stellar Blu or one of its suppliers.

Stellar Blu reserves the right for Stellar Blu, and/or a specified third party (customer/regulatory agency), to perform an audit or inspection at the supplier's facility. The results of the audit shall not be used as evidence of effective control of quality. This verification does not absolve the supplier of the responsibility to provide acceptable product and does not preclude any subsequent rejection by Stellar Blu or its customer.

7.1.4 Notification of QMS Changes, Customer Findings, Sale, Relocation or Transfer

Supplier is required to notify Stellar Blu of any risk/issue event with potential to impact Stellar Blu's customers on time delivery and/or the quality customer's requirements within 48 hours of the receiving notification of the risk/issue event. The Supplier shall utilize the SBS Notification form to inform Stellar Blu of events and they shall be submitted to QualityNotifications@stellar-blu.com.

a) Any significant changes to their Quality Management System such as changes of third-party registration, probationary status of third-party Quality System registration(s) and changes to Quality organization, processes or procedures that could affect conformity of Buyer Item.
b) Any changes of the Quality Management System Representative, or any senior leadership changes, i.e., President or reporting structure changes that affect the Quality Organization.
c) Sale, relocation, merger/acquisition, or closure of Supplier's facility (subject to any legal or regulatory restrictions). Relocation includes reassignment of all or select products to new location (location other than stipulated on PO).
d) A change in manufacturing source(s) (e.g., from the Supplier to an external provider or from one external provider to another external provider), process(es), inspection method(s), location of manufacture (including Supplier internal transfer of work), tooling, machinery, materials, or major manufacturing facility layout modifications that can potentially affect fit, form, or function.
e) Issuance of a major finding by a third-party registrar.
f) Major changes in Enterprise Resource Planning (ERP) system

Supplier shall provide risk mitigation plan (i.a.w. AS9134) that includes Actual/Potential impact to PO schedule/performance; record retention/transfer plan; FAI recovery plan; Inventory line of balance (LOB); Work In Progress (WIP); and Master schedule detailing timeline of critical changes, in accordance with guidance from the SBS Notification Form.

7.1.5 Internal & Sub-Tier Audits

A supplier must conduct regular audits to ensure continued compliance with internal procedures and customer requirements; these audit activities must include internal and sub-tier suppliers.
To ensure internal audits are conducted appropriately and consistently, a supplier must have a procedure with established guidelines for conducting an audit. As a minimum, the audit procedure will establish:

- Responsibility
- Frequency
- Scope
- Distribution/review
- Correction action format

7.1.6 Business Continuity Plan

The supplier shall have a business continuity plan which would allow for the safeguarding, storage and recovery of engineering drawings, electronic media, and production tooling in the event of damage or loss. The plan should include plans to satisfy Stellar Blu requirements in the event of significant natural disasters, labor disruptions, and other major equipment or facilities issue that would risk product quality or delivery performance. The planning process may include the following general areas:

- Risk Assessment
- Business Impact Analysis
- Recovery Strategy Development
- Business Continuity and Technology Recovery Plan Development
- Testing and Maintaining the Plan

7.2 Advanced Product Planning

7.2.1 Advance Product Quality Planning (APQP)

When specified by Stellar Blu, the Supplier shall deploy APQP for each Major change (design or process development) of Build-to-Spec, Build-to-Print and Design & Build products. APQP shall be deployed according to Stellar Blu QPI-17-03-00 APQP procedure, with the following requested elements/deliverables:

- Quality Plan Timing
- Bill of Material (only for “Build-to-Spec” or “Design and Build”)
- DFMEA and Define Key Characteristics (only for “Build-to-Spec” or “Design and Build”)
- PFMEA and Process Key Characteristics
- Process Flow Chart/Diagram
- Measurement System Analysis (MSA), incl. MSA plan (minimum Gauge R&R)
- Production Control Plan
- Job Instructions Sheets
- Production Part Approval Process and First Article Inspection
- Process Stability and Capability

Quality Plan Timing shall be built according to milestones defined by Stellar Blu. Deliverables shall be provided to Stellar Blu according to the milestone plan, or on request. The Supplier shall give full support to Stellar Blu for deliverables maturity assessment. The Supplier shall proactively report the progress of their activities/deliverables to Stellar Blu including early warnings in case of potential risk identification. All APQP deliverables must be submitted to Stellar Blu via email QualityReliability@stellar-blu.com for acceptance.

7.2.2 Failure Modes & Effects Analysis (FMEA)

Where the supplier is responsible for the product engineering, the Supplier must perform Design Failure Modes and Effects Analysis on top level assembly units and subsequently on the subsystem level if high risk areas are identified.

The DFMEA report must be submitted to Stellar Blu with identified Risk Priority Number (RPN) values and action plans to address risk items. This must be completed prior to Critical Design Review (CDR).
All submissions must be sent to QualityReliability@stellar-blu.com for acceptance. Refer to MIL-STD-1629 and/or SAE J1739 for additional DFMEA guidance.

All manufacturing suppliers must perform Process Failure Modes & Effects Analysis (PFMEA) on the assembly processes to reduce risk and process variation.
The PFMEA report must be submitted to Stellar Blu with identified RPN values and action plans to address risk items. This must be completed prior to delivery of the first production article/First Article Inspection (FAI). All submissions must be sent to QualityReliability@stellar-blu.com for acceptance. Refer to SAE J1739 for additional PFMEA guidance.

7.2.3 Key Characteristics and Process Capability

Key Characteristics or Critical to Quality (CTQs) are the key measurable characteristics of a product or process whose performance standards or specification limits must be met to satisfy the end customer. The Stellar Blu Quality and Engineering Representatives may identify the key characteristics on the product drawings and/or quality documentation.

The key characteristics and product/process characteristics that the supplier has identified as critical to control the process are required application of statistical measures for capability assessment and control.

Statistical Process Control data, including monthly Cp and Cpk summaries for key characteristics identified in the control plan, must be sent to Stellar Blu QualityReliability@stellar-blu.com. It may be required with each shipment at the discretion of Stellar Blu or the Stellar Blu customer.

The Control Plan must be completed prior to production and approved in the pre-production/ first article stage with process capability measurements analysed during product ramp and thereafter. Process Capability (Cp/Cpk) raw data must be made available upon request.
Refer to AS9103 (Variation Management of KCs) for additional guidance.

7.2.4 Measurement System Analysis (MSA)

Supplier shall perform MSA on all measurement systems used to measure KCs as required.
When performing MSA, supplier shall comply with the requirements of AS13003 Table 2 with the following exception:

- The acceptable precision to tolerance ratio (Gage R&R) is ≤ 20%

Note 1: Appropriate action should be taken to improve the measurement process when the requirements of AS13003 Table 2 have not been achieved.
The MS must be completed prior to production and approved in the pre-production/ first article stage.
Supplier shall have a process for on-going verification of visual acuity and color vision for individuals performing product inspection.

7.2.5 Obsolescence Management Plan

Supplier shall manage obsolescence of the product/software where it has full or partial design responsibility. It is essential that suppliers monitor the product/software obsolescence in a proactive manner across all phases of the product lifecycle. A Supplier Product Obsolescence Management Plan is required to address contingency plans for critical components. The Plan will be reviewed at PDR program phase by Stellar Blu Quality and Supply Chain Representatives. The Supplier must develop and implement an obsolescence management process, with the following requirements at a minimum:

- Annual assessment of bills of material (BOMs) to identify any actual or potential obsolescence that might impact production or delivery of products.
- Proactive identification and detection of part, material, manufacturing, or test equipment obsolescence issues.
- An action plan to resolve each obsolescence issue, including forecast analysis and product support decisions (i.e., lifetime buy, redesign or product sunset).
- A lifetime-buy inventory management plan to ensure long term ability to produce the products.
- Advanced notification to Stellar Blu of any potential interruption in the ability to meet forecasted demand due to an obsolescence issue.
- Supplier must notify Stellar Blu regarding software, part or material obsolescence as soon as the information becomes available.

The Supplier Product Obsolescence Management Plan must be provided to Stellar Blu via email QualityReliability@stellar-blu.com. The product obsolescence risk items shall be monitored by the supplier and reviewed at all Program Design Review milestone events with Stellar Blu.

7.2.6 Accelerated Testing

Supplier must perform a Highly Accelerated Life Test (HALT) on their product to determine design margin and potential design weakness(es). The HALT procedure must be submitted to Stellar Blu prior to Preliminary Design Review (PDR). The HALT report must be submitted to Stellar Blu prior to the start of Qualification testing.

All document submissions must be sent to QualityReliability@stellar-blu.com for acceptance.

7.3 Materials and Logistics

7.3.1 Counterfeit Parts Prevention Program/ Prevention of Counterfeit Materials

Suppliers must have a counterfeit parts prevention program. The purpose of this program shall be to prevent the delivery of counterfeit parts and control parts identified as counterfeit. Further guidance can be found in SAE AS5553. Non- electronic product shall follow the guidelines of SAE AS 6174. Supplier agrees and shall ensure that Counterfeit Parts are not contained in products delivered to Stellar Blu and Stellar Blu customers.
Counterfeit parts prevention program include:

- Appropriate incoming inspection test methods shall be used to detect potential counterfeit parts and materials.
- The supplier shall not use unapproved suppliers (any company, person, or entity who is not a Stellar Blu approved supplier or not an authorized distributor) for the purchase of components/materials/parts unless pre-approval has been granted by Stellar Blu.
- The supplier shall verify the procurement sources and associated certifying paperwork.
- The authorized Distributor shall provide with the shipment, a Certificate of Conformance, certifying that the component provided is the part number being procured on the Stellar Blu Purchase Order.
- Suppliers of electronic/electrical devices shall follow the guidance of AS5553 in effort to mitigate any risk within the supply chain.
- A certificate from an approved Distributor must also establish traceability of the components to the applicable OCM/OEM.

The Supplier shall flow this clause down to all sub-tier suppliers to prevent the inadvertent use of Counterfeit Parts and materials.

7.3.2 Packaging, Labelling and Shipping

The Supplier shall maintain quality records in accordance with the applicable quality system.

7.3.2.1 Packaging Requirements

The Supplier shall define and continuously improve the conditions of delivery operations to guarantee the Product integrity and quality including Foreign Object debris or Damage (FOD) prevention. The selection of materials and methods must protect the assemblies from bumping, tumbling, dropping of individual units, or groups of units in a packing container.
Supplier shall preserve, package and pack material and protection necessary to prevent deterioration or damage during shipment, under normal environmental conditions and commercial modes of transportation.

Packaging must meet or exceed the guidelines established per Air Transport Association of America (ATA) Specification 300 Specification Category II for Packaging of Airline Supplies (also known as Airlines for America (A4A)).

Any, Less Than Truckload (LTL) shipments and container(s) weighing more than 50 pounds must be palletized. Suppliers are responsible for ensuring shipping containers or pallet loads meet the following criteria:

- Shipping Containers must meet or exceed ATA Specification 300, (testing of Category II Shipping Containers is not required)
- Individual Shipping Packages are required not to exceed 35 pounds whenever possible.
- Proper securing must be used to ensure the pallet is stable (e.g. straps, stretch wrapped, corners, boxed, etc.)
- “Do Not Stack” or “No Stack” cones must be used on top of palletized loads and Gaylord Boxes.
- Wood pallets and crates must be ‘heat-treated’ to protect against wood infesting insects.
- International pallets require a conformance ID stamp to pass Customs.
- Containers must not exceed pallet dimensions (i.e., containers must not overhang the pallet)

7.3.2.2 Packaging of Electrical and Electronic Assemblies

A supplier shall as a minimum:

a) Package ESD Sensitive assemblies in a Shielded (Conductive) bag.
   Ref. ANSI /ESD S541
b) Package Boards in transport/shipping boxes with dividers. Boards are to be in separate divider slots.
c) No Stacking acceptable.
d) The use of bubble pack shall be at the discretion of the supplier.
e) All wiring harness kits shall be packaged individually.
f) Supplier shall provide protection to safely maintain leads and terminals in the manufactured condition under handling and transportation environments.
g) Deviations from the above requirements due to Wiring harness kit size and/or complexity must have the approval of the Divisional Quality representative.
h) The use of pink poly ESD bags is prohibited for the primary ESD container.

Wire harness connectors must be protected from damage by use of plastic caps (ESD caps required for ESD sensitive harnesses) or other protective means. Structural kit items must be packaged in separate unit containers. Multiple structural items may be placed in the same intermediate container; however, they must be packaged in such a way to preclude damage during shipping such as scratches, dings, gouges, chipped paint, or damage to corrosion preventative finishes.
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7.3.2.3 Labelling/Marking Requirements

Labelling/Marking of sub-kits, kits, and containers must be in accordance with marking requirements listed in the ATA Specification 300 chapter for “Packaging of Kits”. The marking must also include Part Number, Part Revision, Serial or Lot number in addition to the marking required by ATA Specification 300. To ensure that all incoming products can be received, inspected and stocked in a timely and accurate manner, Stellar Blu is implementing the following standards for product shipment labelling & barcoding with all Suppliers & Vendors:

- Supplier shall ensure compliance to SBS Shipping Label Guidelines.
- All Packaged parcels must identify the quantity in each individual container.

7.3.3 Delivery

Stellar Blu expects suppliers to maintain On-Time Delivery (OTD) performance of 100%. Just-In-Time delivery demands consistent and timely response from the entire supply base.

7.3.3.1 Short Shipments

Short shipment requests must be communicated to the appropriate Supply Chain Buyer as soon as the issue is known, but no less than 5 business days prior to expected delivery. These requests must require Stellar Blu approval of the Ship Short condition. Short shipments may result in a price reduction on the PO, require a supplier corrective action plan, and result in poor delivery performance ratings. Subsequent shipments of the parts needed to make the original “ship short” whole, must be at the Supplier’s expense.

Note: The Stellar Blu Ship Short Number must be noted on Supplier’s Certificate of Conformance

7.3.3.2 Delivery Schedules

It is the supplier’s responsibility to ensure goods are received at the required location on or by the date specified on the agreed documents. The acceptable time frame for shipments must be addressed specifically in these documents. Suppliers may be required to provide corrective action plans whenever this requirement is not being met. It is the supplier’s responsibility to inform Stellar Blu Supply Chain personnel immediately of any potential difficulties in meeting shipping requirements. Alternative plans may be available which avoid downtime. Stellar Blu expectation is that all shipping requirements must be adhered to (including during holiday or other supplier shutdown periods), unless prior written arrangements are made.

7.3.4 Product Shipment Documentation

7.3.4.1 Packing Slip Requirements

Supplier shall provide a physical copy of the packing slip or of Lading for each separate shipment per container with the following minimum requirements:

- Packing Slip number
- Supplier’s company name and address
- Purchase order number, line item(s) and part numbers.
- Ship to Address (SBS PO and Packing Slip Ship to Address must match)
- Single Line Item for Each Part Number Shipped
- Part Number, Revision, and Serial Number (as applicable), traceable to the line item
- Description of the Product
- Identification of any Sensitive Item information
- Purchase Order Number(s) and Line-Item Number for each item being shipped.
- Order Release Number (if applicable)
- Quantity Ordered, Quantity Shipped, and Unit of Measure
- Number of containers of each part number shipped with the extended quantity noted. (ex. 10 containers @ 100 pieces, total 1000)
- Total number of cartons/skids and weight
- Barcode Serial Number List
- Supplier Lot Numbers (if applicable)
- Country of Origin must be noted (where goods are manufactured)

7.3.4.2 Certificate of Conformance (C of C)

The Supplier shall submit a certification of compliance with each shipment, signed by its Quality Management Representative or their authorized representative which states that the product or service supplied is in full conformance with the following requirements:

- All physical configuration and functional test specifications.
- All raw materials must conform to applicable specifications.
- Any special processes employed on the product conform to applicable specifications.
- Quality Inspection and test records, physical and chemical analysis, and process control data is on file and available for examination for a period of 20 years unless otherwise specified on the purchase order.

By furnishing this certification, the Supplier represents that they are the manufacturer, duly authorized distributor, or agent for the manufacturer of the product.

The CoC prepared for each shipment shall include at minimum the following data elements / information, or equivalent forms (e.g., FAA Form 8130, EASA Form 1):

- Supplier Facility name & address
- Date issued
- PO/Contract number
- Part number
- Traceability Data if applicable (e.g., serial number, date code/production lot number)
- Quantity of parts
- Variance Number and details of variance, if applicable
- Special Handling (e.g., Hazmat, temperature sensitive, shelf life limited, etc.), if applicable
- Signature and title of authorized Supplier Representative (Electronic Signatures are acceptable)
- Supplier Representative printed name adjacent to the signature

Special Process Certificates

In addition to the general certification, an additional special process certification is required.
If the job was processed using a Nadcap accredited process, the supplier shall include a statement indicating the job was processed per their Nadcap accreditation and shall include their accreditation number and expiration date.

Supplier shall provide evidence of any applicable test reports/data/disposition for the following that is specified within an ATP, such as, but not limited to completion of:

- Vibration Test completion
- Burn-In and/or any required accelerated life testing
- Dielectric withstanding Voltage
- Insulation Resistance
- Ground Bonding
- Fiber Optics testing
- Material /Process/Test Report Certifications
- Provide an evidence of statistical process capability for critical characteristics.

All returned and/or repaired LRUs must have a corresponding ATP test data sheet shipped with the unit as well as a corresponding Failure Analysis Report (i.e. teardown report, strip report, etc.). All Failure Analysis Reports (i.e. teardown report, strip report, etc.). for returned and/or repaired LRUs must reference the applicable technical data used for the documented repair. All returned and/or repaired LRU paperwork (i.e. Failure Analysis Report, C of C, 8130-3 (if required)) must reflect the P/N and S/N stated on the repair Purchase Order (PO) or Transfer Order (TO).

7.3.4.3 Direct Ship Authorization (DSA)

The Supplier must receive formal approval from Stellar Blu and/or Stellar Blu customer prior to shipment of any production article(s) shipping directly to the customer. Stellar Blu is responsible for providing the approval in accordance with Stellar Blu Direct Ship Authorization procedure. A formal DSA Stellar Blu approval letter must be granted for every approved DSA shipment.
The Supplier must notify Stellar Blu at least 5 business days in advance of any expected direct shipment.
All DSA shipments must have the entire paperwork package provided with the shipment and scanned and emailed to Stellar Blu – QualityDirectShip@stellar-blu.com
This package must consist of:

- 8130-3 (as applicable)
- Form 1 (as applicable)
- Supplier issued C of C
- Stellar Blu issued C of C
- Stellar Blu issued Direct Ship Approval Form
- Packing List (Stellar Blu Part Numbers and Serial Numbers must be listed)
- Weights and Dimensions
- Bill of Lading (signed by the carrier and shipper) showing Stellar Blu PO#

7.4 Quality

7.4.1 Record Retention / Production Records Requirements

The suppliers must retain adequate quality system records, not limited to all advanced quality planning documents, process guidelines, laboratory test instructions, gauge/test equipment verification and calibration, control charts, FAI, inspections, shipping records, PPAP, and performance test methods. The suppliers record keeping system must ensure a minimum retention period of 20 years for all Quality/Production records.

The archiving system must ensure all records can be made available to Stellar Blu at any time, even in the case of a commercial business termination or bankruptcy. Upon request, records must be made available within 3 business days. In the event of airline or regulatory inquiries an urgent records request may be made and expected to be fulfilled within 24 hours.

Supplier’s record retention system shall include appropriate controls at Supplier’s sub-tier sources, showing the date, lot #, serial number, revision letter, or other positive identifications that provide objective evidence of incorporation of all changes in product(s) and process(s).

7.4.2 Calibration Measuring & Test Equipment

All suppliers shall comply with the calibration system described by ISO 10012, ANSI/NCSL Z540.3, ISO 17025 or equivalent. Inspection gages and test equipment must be controlled as part of the supplier's periodic calibration system prior to use in production. Periodic tool inspection cycle, based on use and location, shall be sufficient to ensure accurate measurements. The supplier is responsible, at all times, for the care, maintenance, safekeeping, and proper use of any Stellar Blu issued tools and equipment, if applicable.

Supplier shall:

- Establish a documented calibration procedure in accordance with AS/EN9100 requirements.
- Report of any loss, damage or destruction of gages and test equipment if issued by Stellar Blu
- Safeguard equipment from adjustments that would invalidate the measurements result.
- Provide to Stellar Blu, a Certificate of Calibration for each piece of measurement equipment. This includes details of equipment type, unique identification, frequency of checks, check method/acceptance criteria, environmental conditions under which the calibration was performed, specifications to which the item was calibrated, the calibration standards used (which are traceable to NIST), date calibrated, due date, and any out-of-tolerance (OOT) conditions, including "before" and "after" calibration data for those devices found OOT.

7.4.3 Solder/Solderability of Parts

As applicable, drawing and specification requirements supersede these requirements:

- Electronic and Circuit Card Assemblies - Electronic and electronic Circuit Card Assemblies (CCA) must be soldered to the requirements of IPC J-STD-001, Class 3. The Supplier must implement and maintain a system that includes adequate process controls to assure conformance to the soldering, cleanliness, acceptance, material handling, storage, and shipping requirements. The item must meet the cleanliness requirements of IPC J-STD-001, cleanliness designator C-22. Rework, if required, must be in accordance with IPC 7711/7721.
- Component & PCB Solderability - The Supplier (manufacturer or distributor) must ensure that all parts: leads, lugs, terminal, wires, and terminations cited on it's PO must meet the component solder requirements of IPC J-STD-001 and the solderability requirements of IPC J-STD-002.Printed Circuit Boards must meet the solderability requirements of IPC J-STD-003.
- Pre-Tinning - Component leads or the like must be tinned per IPC J-STD-006 and properly cleaned to remove flux residue. Leads must meet the solderability requirements of IPC J-STD-002, Category 3.
- Fluxes, Solder, and Solder Paste - Fluxes, solder alloys, and solder pastes must meet the IPC J-STD requirements: J-STD-004 for Fluxes, J-STD-005 for Solder Pastes, and J-STD-006 for Solder Alloys.
- Conformal Coating - To mitigate the risk of tin whisker growth, conformal coating should be applied to CCAs to the requirements of IPC J-STD-001, Class 3.

Special Processes

Special processes must be performed by subcontractors with an approval under PRI-NADCAP AC7004. The supplier shall have a system for approving and controlling special process sources. Supplier's utilization of NADCAP-accredited sources does not relieve Supplier from the obligations to ensure subcontracted sources are in full compliance with applicable specifications stated on the drawing and procurement documents.

If a Supplier's sub-tier supplier performs the special process, the Supplier is responsible to flow down the requirements on sub-tier PO's. It is expected that the supplier will ensure any applicable requirements are imposed throughout the entire supply chain.

All Special Process Suppliers in the supply chain shall be Nadcap accredited for the following special processes:

- Chemical Processing
- Coatings
- Heat Treating
- Materials Testing Laboratories
- Nonconventional Machining and Surface Enhancement
- Non-destructive Testing
- Welding

Supplier shall have a process for ensuring that special processes are controlled and approved, as appropriate, at all sub-tier suppliers for any work under the Purchase Order. All special processes product documentation shall be maintained on file and made available to Stellar Blu upon request.

7.4.4 Control of Nonconforming Material

The Supplier shall utilize the SBS Notification of Escape form QF-03-44-00, to inform Stellar Blu of any escaped non-conforming product and they shall be submitted to QualityNotifications@stellar-blu.com within 24 hours of discovery of suspect non-conforming product having been shipped regardless of destination. Supplier shall not ship any nonconforming product(s) to Stellar Blu's customers without written approval.
The Notification of Escape shall, at minimum, contain the following information:

1) Supplier Name
2) Supplier Code Number (if applicable)
3) Description of the defect
4) Affected part number (s)
5) P.O. number (s)
6) Quantities and Date delivered.
7) Date of Manufacture
8) Traceability Information (Serial Number, lot number, batch number, etc)
9) Attachment of test/inspection data.
10) Information regarding rejection and containment
11) Root Cause and corrective action or completion date for submittal (SCAR – 30days of its issue date).

The supplier is required to immediately inspect, segregate, and correct similar parts within its own facilities to assure Stellar Blu's customer will not receive additional shipment of suspect product until the cause of the nonconformance has been identified and controlled. Any product rejected due to the fault of the supplier will be subjected to one of the following actions:

- Return to supplier at supplier's cost
- 100% Inspection at supplier's cost
- Return to supplier for rework at supplier's cost

All product reworks shall have documented work instructions. Supplier shall request and obtain approval for rework if the rework cannot be completed within the existing manufacturing process.
The Supplier must have a Control of Nonconforming Material process in place which identifies, controls, and prevents the unintended use or delivery of nonconforming material.

Stellar Blu's suppliers are not authorized to issue a "Repair" or "Use-As-Is" dispositions without the approval of the Stellar Blu Engineering Department in writing.

7.4.5 Corrective & Prevention Action

Stellar Blu's Suppliers shall have a root cause and corrective action process consistent with the 8D Methodology and/or problem-solving tools (i.e. DMAIC, 5 whys, Fishbone, etc.).

For all non-conformances identified by Stellar Blu and Stellar Blu's customers, the supplier shall submit a formal corrective action response with containment actions (within 24 hrs) and corrective actions (within 14 calendar days) from receipt of a corrective action request (via email QualityNotifications@stellar-blu.com)

When deemed necessary by Stellar Blu, the Supplier shall provide a Corrective and Preventive Action (CAPA) report with verifiable documents that include implementation and target dates, for nonconformities reported by the Stellar Blu to Supplier.

It is essential that corrective action be immediately taken by the supplier when any nonconformance is identified at Stellar Blu or any of its customers. When this occurs, Stellar Blu Quality will inform the supplier of the nonconformance. A SCAR/NCR may be issued for purchased components found to be nonconforming through line rejections, testing failures, failed inspection results, Stellar Blu customer concerns or returns, or obsolete material. Suppliers may jeopardize their ability to be considered for future opportunities if they fail to respond to the SCAR/NCR in a timely manner.

7.4.6 First Article Inspection

First Article shall be performed in accordance with the SBS QMP-03-10-01 and documented by using Stellar Blu QF-03-36 FAI Form. This is applicable to First Article Inspection (FAI), partial (delta) FAIs, and First Article Inspection Reports (FAIR) for Stellar Blu's product and assemblies. The objective of the First Article submission is to ensure the first production run meets all drawing requirements and all involved manufacturing processes have enough proven ability to run the part in the normal production on continual basis. Failure to conform with the FAI requirements, Stellar Blu will not approve delivery of the first article samples without formal approval from a Stellar Blu Quality representative.

Approval of samples by Stellar Blu does not mitigate the supplier's responsibility to continue conforming parts per the drawing or purchase order requirements.

A First Article Inspection is required when any of the following occurs:

- for any production start,
- for any Design Definition change, -
- for any change of manufacturing processes (production or assembly process evolution or change of production site)
- for any change in numerical control program or translation to another media that can potentially affect fit, form, or function.
- after any natural or man-made event that can affect the manufacturing process
- after the rejection of a previous FAI
- after any interruption of production activity for 2 years or longer.

For an assembly level FAI, all lower level and detail FAIs shall be included in the FAI Report. It shall include the following i.a.w. AS/EN9102 (as applicable):

- AS9102 Forms 1, 2, and 3
- Copy of full drawing package with bubbled identifiers for all design characteristics
- ATP/Test Data when applicable
- Special processes Certificate of Conformance when applicable
- Sub-Tier suppliers' Certificates of Conformance when applicable
- Supplier's Certificate of Conformance
- Raw Material Certifications

This shall apply to final assemblies and corresponding subassemblies and individual parts manufactured or assembled to a specific drawing. Unless otherwise specified, Catalogue and COTS parts do not require a FAI. Results of FAI must be completed, accepted, and approved by the supplier quality representative and Stellar Blu prior to production shipment. Stellar Blu reserves the right to accept or reject the First Article Inspection Report.
The Supplier shall ensure that First Article requirements are flowed down to Supplier's subcontractors at every tier.
Stellar Blue requires all FAIR submissions electronically via email QualityNotifications@stellar-blu.com.

7.4.7 Structural Components (SC)

This clause applies to all product manufactured by the Supplier or their sub-tier with no exceptions.
A structural component is a component of structure that attaches the Stellar Blu In-Flight Connectivity System components to an aircraft's primary structure. Component parts identified on Stellar Blu's Drawings as the following, are considered Structural Components:

- Doublers
- Triplers
- Lugs
- Intercostals
- Brackets or Fittings
- Gussets
- Adapter Plate

For adapter plate dimensional inspection, primary attention must be given to any Adapter Plate splice area, the center area of the Adapter Plate (area between the antenna mounts) and any component of the Adapter Plate identified as a bracket, splice or crossbar.

For the purposes of this clause, identified Structural Components must be inspected to confirm that the parts meet the characteristics of length, width, depth, and thickness dimensions listed on Stellar Blu drawings. Inspections may be conducted on 100% of product.

The supplier must provide current process capability measurements (Cp, Cpk) for those characteristics on a quarterly basis via email to QualityReliability@stellar-blu.com (submittal to an agreed upon, alternate electronic location is acceptable). Raw data must be supplied, upon request. Supplier format for results is acceptable but must contain data requested above.

7.4.8 TSO/PMA Certificate and Airworthiness Approval Tag

When required by contract, components procured from a supplier holding an applicable Airworthiness Approval from their local regulatory authority, are to be supplied with the applicable Airworthiness Tag/Certification such as EASA Form 1, Authorized Release Certificate, FAA Form 8130-3, or other CAA equivalent Airworthiness Approval Tag.
This is particularly important for proprietary parts that may not be readily inspected/tested on receipt. In addition to any specific requirement for Airworthiness Release Tags, the basic categories of 'C of C' documentation for all products or services are General, Special Process, Raw (Mill) Material, and Age-Sensitive materials.

7.4.9 Supplier Request for Waiver/Deviation Supplier

Supplier can make a request to Stellar Blu to accept the product with a minor waiver. However, the Supplier/Sub Supplier shall understand that once Stellar Blu or Stellar Blu customer gets PMA approval on product, Stellar Blu can no longer accept part not complying with the drawings unless engineering agrees to change the drawing and we get approval for the change.

A submitted waiver should not affect form, fit, or function of the product. Requests will be considered only for unusual circumstances. The deviation request is used to obtain temporary authorization. It must be for a specific number of units or time-period.
If the request for a waiver/deviation is due to a non-conformance, the supplier is responsible for providing a complete corrective action plan to avoid recurrence.

All requests for Deviation/Waiver must be sent to Stellar Blu Quality via email QualityWaiverRequest@stellar-blu.com, at lead 10 business days prior to expected delivery. The Deviation Number must be noted on Supplier's Certificate of Conformance.

7.5 Facilities & Tooling

7.5.1 FAA Anti-Drug and Alcohol Misuse Prevention Program (applicable to USA suppliers)

FAA approved Anti-Drug and Alcohol Misuse Prevention program is required for those groups/companies located in USA that perform maintenance on aircraft and aircraft parts/LRU's. The Drug and Alcohol testing program rule applies to Suppliers that are under contract to supply work or services or parts to Stellar Blu. It is also the Supplier's responsibility to flow down these requirements to their sub-tier supplier(s).

7.5.2 Stellar Blu Owned Tooling & Gauges

Unless otherwise agreed upon in writing, all supplies, materials, facilities, tools, jigs, dies, fixtures, patterns, and equipment furnished to the supplier by Stellar Blu for the fulfilment of a Purchase Order, or for which the supplier has been reimbursed by Stellar Blu, must remain the property of Stellar Blu. The supplier must bear the risk of loss and damage to such property, normal wear excepted. Such property must always be properly stored and maintained by the supplier, must be identified as Stellar Blu property, must not be commingled with the property of the supplier or with that of a third party, must not be moved from supplier's premises without Stellar Blu prior written approval, and must, upon request of Stellar Blu to Supplier, be properly packed and marked in accordance with the requirements of the carrier selected by Stellar Blu to transport such property.
In general, the requirements for supplier's use of Stellar Blu property include:

- Inspection & measuring equipment must be specified in the control plan and be traceable to the inspections performed.
- All inspection & test equipment must be included in a comprehensive calibration program, conducted prior to initial use and at prescribed intervals. Reaction plans must be in place and followed when a piece of inspection/test equipment is deemed out of calibration.
- Supplier is responsible for the proper use, maintenance, and calibration of all tooling, testing, and inspection equipment.
- All equipment must be clearly identified, including part number, revision level, calibration date, and have a Stellar Blu identification number.
- Records of maintenance must be kept by the supplier until such time that the part is no longer considered "active" (part remains "active" until tooling scrap authorization is given by Stellar Blu). Stellar Blu reserves the right to inspect any tooling, testing, and/or inspection measuring equipment at the supplier's location.

7.6 Purchasing

7.6.1 Sub-Tier Selection/Control & Contract Requirement Flow-down to Sub-Tier Suppliers

Stellar Blu reserves the right to specify or approve sub-tier suppliers contracted by its suppliers for work performed on Stellar Blu products. This includes but is not limited to special processes, material testing services, distribution, and other subcontractors.
Suppliers shall flow down to its sub-tier contractors, all relevant design, engineering and quality requirements imposed by this document and other contractual documents, including government/customer-regulatory requirements.

7.6.2 Suppliers Evaluation, Selection, Approval

All suppliers shall be reviewed and approved by Stellar Blu through its Supplier Selection process prior to being included in the SBS Suppliers and Partners Total Overview List as an approved supplier**.** This will require conducting an on-site quality system audit by the SBS Quality team. Suppliers are required to submit a signed Stellar Blu Non-Disclosure Agreement prior to the release of any information.

Once supplier approval is granted, Stellar Blu will monitor supplier performance on a regular basis to maintain an “Approved” status. Stellar Blu will issue a Non-Conformity Report and/or Quality Plan to suppliers who do not meet the SBS Quality Requirements or are considered underperforming suppliers. Suppliers are expected to take appropriate corrective action to improve their scores and/or to adhere to the Quality Plan as required.

The supplier must have an approved Purchase Order from Stellar Blu prior to delivery of any articles or services to Stellar Blu. Purchase Order shall be to current released documents as of P.O. issue date unless otherwise noted. The Supplier is responsible for ensuring that all persons are aware of the Stellar Blu requirements as applicable pertaining to product or service conformity and product safety requirements as defined by SBS contractual documents.

The authorized Quality Representative of Stellar Blu shall have the right to maintain cognizance over the Quality Assurance inspection system imposed on the Supplier. Accordingly, the Supplier is expected to grant the designated representative access to the facility at all reasonable times and access to areas where the production of the item(s) covered by this Purchase Order is taking place. Where these areas infringe on Supplier's proprietary processes of a sensitive nature or involve security with respect to other Supplier products being fabricated, mutually satisfactory arrangements shall be made with Stellar Blu. The Stellar Blu Quality Department has the right to inspect any or all the work included in this Purchase Order at the Supplier's facility until the supplier is granted Delegation in accordance with AS9015 industry standard.

7.6.3 First Pass Yield Data

Supplier must monitor First Pass Yield (FPY) data for all product provided to Stellar Blu and take appropriate corrective action to address performance issues.

- Line Replaceable Units (LRU) suppliers must monitor FPY by deliverable part number.
- Harness Kit suppliers must monitor FPY by deliverable part number.

Supplier must have the ability to further refine the yield data by product type to determine where appropriate corrective actions are needed. FPY data must be provided monthly to Stellar Blu QualityReliability@stellar-blu.com, delivered to or as otherwise directed by Stellar Blu. FPY raw data must be made available upon request.

7.6.4 Supplier Performance Measurement

Suppliers may obtain their performance score from the Stellar Blu Supplier Dashboard at any time. The supplier's Total Performance score is comprised of five categories of criteria: Technical Skills, Quality of Work, Reactivity, Management and Procurement.

Supplier Quality Performance

The supplier quality performance for a supplier is based upon the following:

- Defective Parts Per Million (DPPM)

Supplier Delivery Performance

Delivery Rating=(Number of line items on-time/Total line items received) X100 o Supplier Ratings

- A min. 300PPM Quality and 100% Delivery
- B min. 400PPM Quality and 98.5% Delivery
- C min. 500PPM Quality and 96.5% Delivery
- D under 500PPM Quality or under 96% Delivery

Suppliers not attaining 500PPM on Quality and 96% Delivery ratings require the supplier to submit a Corrective Action Plan acceptable by Stellar Blu, upon request. If the supplier does not submit a corrective action plan, they may be subject to other actions including a risk-based assessment, pricing penalties or removal from the Supplier Approval List.

7.7 Operations

7.7.1 Source Inspection, DPRV, and Operator Self-Inspection

7.7.1.1 Source Inspection

When invoked via contract/PO, the supplier shall support Source Inspection activities by Stellar Blu or Stellar Blu's Customer. The supplier will contact via email QualitySourceInspection@stellar-blu.com, the appropriate party for source inspection upon completion of the product in such cases. Product shall not be shipped until source inspection has been completed including appropriate documentation. If the supplier has difficulty in reaching the appropriate source inspector, they shall contact their buyer for support without undue delays.

When source inspection is required, the Supplier shall notify Stellar Blu sufficiently in advance of the availability of product for source inspection so that it can be scheduled at Supplier's facility prior to the Purchase Orders' specified delivery due date. Supplier's measuring, testing or any other required equipment(s)/tool(s), facilities, and personnel shall be made available for use by Stellar Blu's representative when requested during source inspection.

7.7.1.2 Delegated Product Release Verification (DPRV)

Stellar Blu suppliers that have shown the highest quality performance levels and high level of capability in the systems and processes used to control supplied product, may be delegated authority to verify that the parts or services they provide meet all specified requirements. This type of program will be defined and controlled by Stellar Blu in conjunction with their customer requirements, supplier agreements and will be noted in PO terms when used.

Supplier shall comply with the requirements of AS9117 and AS13001.
The process is known as the Delegated Product Release Verification (DPRV) process. Supplier shall understand that the Delegated Product Release Verification (DPRV) is a process whereby a supplier is delegated the authority to act on behalf of Stellar Blu to verify and release products/services. The DPRV inspections shall be performed on each release of product. DPRV shall be performed after final inspection, as close to shipment as practical; conducted as an independent process by someone other than the person who performed the final inspection, unless waived by Stellar Blu.

The DPRV shall consist of, but not limited to:

- Confirmation that product conforms to Contract / purchase order.
- Documentation review.
- Verification that all required product realization operations and inspections are complete.
- When applicable, verification that product nonconformance has been properly documented and processed, in accordance with Stellar Blu contractual requirements.
- Verification that Stellar Blu's requirements for First Article Inspection (FAI) and/or Production Part Approval Process (PPAP) have been satisfied.
- Physical product verification, including verification of product marking/identification and visual examination. DPRV shall validate special requirements, critical items, and key characteristics were identified by Stellar Blu.
- Sampling plans for product verification may be used with approval from the Stellar Blu.
- Shipping / release documentation.
- DPRV personnel shall validate and record the completion of the verification activity. When required. Stellar Blu may provide a Delegated Product Release Verification Checklist to document completion of the DPVR validations, otherwise the supplier can utilize their own checklist to satisfy Stellar Blu's DPRV process criteria.
  Specific stamps, identification numbers, etc. shall be used for product release. Product and/or documentation nonconformances detected during the DPRV process shall be processed in accordance with Stellar Blu nonconformance and corrective action procedures.

7.7.1.3 Operator Self- Inspection

Stellar Blu suppliers shall ensure that the Operator Self-Inspection program is performed in accordance with the standard AS9162. The purpose of this program should drive accountability at every step of the product process to improve the quality of products and processes. The Supplier shall ensure that the operators are trained and qualified for any required measurement and tests, including use of appropriate statistical techniques.

7.7.2 Sampling Plan

The supplier may use reduced-frequency (sampling) inspection plans only when historical records indicate that a reduction in inspection can be achieved without jeopardizing the level of quality. The supplier may employ sampling inspection in accordance with nationally accepted or customer required standards, as specified by the SOW and/or Purchase Order requirements.
In the event a sampling plan is utilized, the sampling process must be based on either:

- American Society for Quality (ASQ) Zero Acceptance Number Sampling Plan (C=0), Table 1a with an AQL=1.0
- ANSI/ASQ Z1.4, Table 1 with General Inspection Level II and AQL=1.0
- AS 9138 for Attribute or Variable Data
- Other Stellar Blu accepted methodology or Stellar Blu Customer directed method.

7.7.3 Software

Software supplier shall ensure that they communicate at a minimum compliant to the Stellar Blu SOW requirements. Software development should always occur in multiple phases where the requirements of each phase are to be determined by Stellar Blu, Stellar Blu Customer and Supplier. Each phase should include a formal software drop to Stellar Blu and be tested per testing requirements.

7.7.3.1 Software Configuration Audit

Supplier must support Stellar Blu Configuration Audits upon request. Stellar Blu will utilize AS9115 as guidance to develop an audit plan. Audit parameters to be agreed to prior to audit start.
For each SW Production Article, supplier must have a requirements document, test plan and a test report document.

7.8 Engineering

7.8.1 Configuration Change Management

The supplier shall have a written process to manage product configuration and product changes. When changes to the product are considered, the supplier shall take into account the impact on time, cost, quality, performance, risk and opportunities, both internally and for sub-tier suppliers.

Note: Due to contractual, regulatory, and OEM requirements, Stellar Blu is required to review and approve all changes at any level of the BOM for all components that are used in Stellar Blu systems which are approved for use by Type Certificates (TC) or Supplemental Type Certificates (STC).

7.8.2 Environmental Stress Screening (ESS)

The Supplier shall submit an ESS procedure and quarterly ESS report. The goal of an ESS program is to screen out manufacturing defects and early-life (i.e., infant mortality) failures from production units before they are shipped to the field. The deliverables are subject to approval by Stellar Blu. The Supplier shall document the prescriptive test methodology within the ESS procedure. The results of testing shall be summarized in the quarterly ESS report. Stellar Blu may assist the Supplier, as needed, in the development of these deliverables.

The Supplier shall prepare an ESS procedure that documents the processes for accomplishing the requirements of this plan. The ESS procedure shall document all required processes or refer to those processes documented elsewhere in the Supplier's controlled documentation system.

The ESS procedure shall contain, but not be limited to the following sections:

- Purpose
- Scope
- Acronyms and Definitions
- Applicable Documents
- Description of Product (i.e. Test Article)
- Environmental Test Profiles
- List of Test Equipment
- Test Setup (Block Diagram w/ I/O Functions)
- ESS Methodology and Procedural Steps
- Functional Test Description of the Unit Under Test (UUT)

- Pass/Fail Criteria
- Description of Failure Reporting and Corrective Action System (FRACAS)

The Supplier shall provide a quarterly ESS report to verify that ESS performs the functions of both eliminating infant mortality failures and improving reliability in manufacturing. The quarterly ESS report shall contain, but not be limited to the following sections:

- Summary of Test Results
- Test Facility (Name & Address)
- Range of Testing Dates
- Range of UUT Serial Numbers Tested
- Test Personnel (Name, Company & Title)
- Test Failure Analysis Reports

All Suppliers shall perform ESS at the LRU level as part of final acceptance testing. The first step in implementing ESS is planning, which includes selecting the level of assembly at which to screen. The Supplier may perform screening at levels of assembly lower than the LRU level, at their discretion. The screening methods shall be random vibration and thermal cycling, as these environmental stresses are effective screens for precipitating both manufacturing and early-life defects in production articles. The Supplier shall conduct the screening, record, and report the results.

7.9 Statutory, Regulatory, and Environmental

7.9.1 Foreign Object Debris/Damage (FOD) Prevention Program

Stellar Blu Product suppliers must have and maintain a FOD program compliant to Aerospace Standard AS9146 or NAS412 or other equivalent international standard. The FOD program shall focus on the prevention, detection, and removal of foreign objects. This process must cover all stages of the Product's life, from design, tooling specifications, manufacturing and assembly, testing, inspection, maintenance, packaging, shipping, and receiving to delivery.
The program should meet the following requirements as applicable:

- FOD prevention must be implemented in all areas as applicable and FOD training awareness must be given.
- Parts must be protected from handling damage in all areas; material handling awareness training must be provided to all employees and handling standards documented.
- Supplier must have a process to document, analyse all FOD incidents and perform root cause analysis in case FOD is detected during FOD inspections or at a further stage of the production or maintenance process.
- Metrics must be documented if FOD incidents occur.
- If critical FOD areas are noted/ required, Physical Entry Controls shall be established with entry requirements visually posted outside each area.

Supplier shall ensure that applicable FOD prevention requirements are flowed down to Supplier’s subcontractors. Internal auditing of FOD prevention in all critical FOD areas must be conducted and documented. By delivering items to Stellar Blu, the Supplier shall be responsible for ensuring that Stellar Blu’s product and packaging are free from FOD.

7.9.2 Electrostatic Discharge (ESD) and Moisture Sensitive Device (MSD) Protection Program

Stellar Blu's Suppliers and Subcontractors that furnish and handle ESD sensitive items are required to control the ESD sensitive materials, assemblies, parts, and components during receipt and through the manufacturing and inspection cycles, storage and shipping using MIL-STD-1686, ANSI ESD S20.20 and IPC/JEDEC J-STD-033 as a guideline.

Suppliers and sub-contractors shall have an ESD control program which include as a minimum:

- ESD training process, including retraining at regular intervals;
- ESD sensitivity part classification
- Appropriate marking to identify ESDS parts;
- Suitable handling and packaging to protect ESDS parts
- Personnel grounding requirements;
- ESD protected areas (also known as Static-Safe Work Areas or SSWA);
- Periodic ESD Self-Audits checking for compliance;
- Second Party ESD Audits when requested by a representative of Stellar Blu.

Electrostatic Discharge (ESD) sensitive materials, assemblies, parts, components, etc., shall have a sealed conductive primary container that is ESD compliant. ESD warning labels shall be visible at the point of access. Dust caps used in conjunction with ESD material shall be ESD compliant as defined in ANSI/ESD S20.20.

As appropriate, Industry Workmanship standards for manufacturing performance shall be deployed in effort to meet the above Acceptability Standards. Stellar Blu will use the above industry standards for inspection/acceptance of all electrical and electronic component assemblies unless otherwise specified in the Engineering drawing or SOW.

7.9.3 Shelf Life of Non-metallic Raw Materials and Parts

The Supplier shall furnish the date of manufacture and the shelf-life expiration date on each container shipped. Items will not be accepted by Stellar Blu where the remaining shelf life is less than 75% of total shelf life from date of manufacture.
Supplier must indicate any applicable shelf life, manufacturing/cure date, or expiry date limitation on their certificate of conformance, and on all containers and packages according to applicable standards AS9100/EN9100 requirements.

When the procurable item contains multiple age sensitive items (i.e. a kit), the outermost container must note the most restrictive shelf-life/date of expiration of all applicable items within the container.
Items which require special storage, such as light or temperature sensitive materials, must be shipped with consideration of this sensitivity and must be clearly identified on the outside of the packaging material, as well as on the packing slip.

7.9.4 Prohibited Materials/Substances

Unless otherwise authorized in writing, Stellar Blu prohibits certain materials/substances being contained in or on the product being supplied by the Supplier.
Stellar Blu further prohibits these materials/substances from being used during the following type of activities/processes, including, but not limited to: manufacture, processing (inclusive of Special Processing), assembly, integration, test, inspection, rework/repair, servicing, maintenance, handling, and packaging. This requirement extends throughout Supplier's entire sub-tier supply chain for all items and processes comprising the product being supplied by the Supplier to Stellar Blu and must be flowed down

by Supplier and Supplier's sub-tiers as necessary. In the event of conflict between Stellar Blu's engineering drawing, specification, or this clause, the engineering drawing must take precedence.

7.9.5 Registration, Evaluation, Authorization and Restriction of Chemicals (REACH)

Supplier **must** comply with the latest European Community (EC) Regulation No. 1907 concerning the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH) for the product being provided by the Supplier to Stellar Blu. Upon Stellar Blu's request, the Supplier must provide to Stellar Blu satisfactory supporting evidence demonstrating Supplier's compliance with their obligations with regards to REACH.

7.9.6 Restriction of Hazardous Substances Directive (RoHS)

Supplier **must** comply with the latest European Directive on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (commonly referred to as the Restriction of Hazardous Substances Directive or RoHS) for the product/service being provided by the Supplier to Stellar Blu. Upon Stellar Blu's request, the Supplier must provide to Stellar Blu satisfactory supporting evidence demonstrating Supplier's compliance with their obligations with regards to RoHS.

7.9.7 Hazardous Material / Environmental Health and Safety Management System

Supplier shall have an active Facility Employee Environmental, Health, and Safety (EHS) program that complies with Local, State and Federal requirements such as OSHA. If contractually defined, the suppliers Environmental Management System (EMS) shall comply with the requirements of ISO14001.

The supplier must ensure that the proper Dangerous Goods-Hazardous Materials/Safety Data Sheet (SDS) markings are placed on the shipping or storage containers, and proper documentation is supplied. SDS sheets should be included in initial shipments and upon request.