CEiiA QUALITY REQUIREMENTS FOR SUPPLIERS

Issue 1.0

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1. SCOPE

The purpose of this manual is to formally transmit CEiiA quality requirements to suppliers.

Also with this document CEiiA aims to maintain the highest standards for ethical business practices and performance in every aspect of its business conduct.

1.1 Definitions and terms

In this Quality Requirement for suppliers document, the terms ***"shall"*** and ***"must"*** mean that the describe actions is mandatory; ***"should***" means that the described actions are expected with some flexibility allowed in the method of compliance; and **"may"** means that the described action is permissible or discretionary.

The term ***"supplier"*** means vendor, supplier of goods and services, sub-contractor and distributor. Questions concerning this manual should be directed to your respective CEiiA Supply chain representative or CEiiA Quality Department.

1.2 Order of precedence

Any inconsistencies in this document ***shall*** be resolved in accordance with the following descending order of precedence:

(1) the drawing, design data and any approved concession deviation
(2) the Purchase Order, release document, as applicable, including any special terms and conditions;
(3) any Statement of Work;
(4) General Terms and Conditions released with PO
(5) Quality Requirement for Suppliers (this document).

2. SUPPLIER APPROVAL

2.1 Supplier Approval Requirements

For CEiiA, the minimum quality requirements of goods and services to the suppliers shall be Quality Management System (QMS) certification to **ISO9001** (or equivalent) accredited certification body. This requirement guarantees the supplier has put in place a consistent QMS able to satisfy our basic needs. Suppliers that provide goods and services that are used in projects for aviation, defense and space applications should be certified to **EN9100** or equivalent and listed on the IAQG Online Aerospace Suppler Information System (OASIS).

2.1.1 Exceptions

Requirement exceptions for suppliers that do not meet the minimum quality certification shall be authorized on the basis of:

- The supplier is mandated by our customer.
- The supplier is the manufacturer of a single sourced product mandated by our customer.
- The supplier is the only distributor of a product mandated by our customer.

- The supplier provides goods or services that have no direct or indirect effect on the goods and services we provide to our customer.

2.1.2 Supporting Documentation

Documents required to complete the supplier approval process are:
- CEiiA Compliance Questionnaire for Suppliers
- Confidentiality or non-disclosure agreement (NDA) if applicable

2.1.3 Special Measures

Where the above criteria and exceptions cannot be met, depending on the product, its application, value and criticality, special authorization may be granted where evidence of compliance can be provided.
This may include CEiiA audit to a set of alternative basic quality requirements.

2.2 Special Processes

Suppliers and supplier sub-contractors providing special processes *shall* have a documented process control schedule (for example: Process Flow Chart, PFMEA, Job card traveler - or similar, Process Control Plan & Inspection Plan) suitable of meeting all requirements prior to the commencement of production. This will include identifying key characteristics in all preparatory treatments, post treatments, processing, significant surfaces, tests and all other processes and treatments.

- In some instances, depending on the criticality of product the process control plan/schedule shall be subject to CEiiA approval.
- Suppliers and supplier sub-contractors providing special processes *may* be Nadcap accredited for the special process they provide.

2.3 Site Visits and Supplier Audits

Where appropriate, suppliers shall be subject to on-site audit and / or site visit by the CEiiA quality engineer and / or supply chain representative. In some instances, CEiiA will be unable to raise a purchase order until supplier approval has been granted. Scheduled verification audits, site visits and business to business meetings shall be supported when required.

2.4 Scope of Approval

Suppliers approved for use will be allocated to the CEiiA Supplier database stating the scope detail on their approval.
Suppliers shall not conduct work for CEiiA outside their scope of approval unless authorized by CEiiA Quality department through audit.

2.5 Approval updates – Supplier Responsibilities

It is a requirement of the conditions of supply into CEiiA that the contractor/supplier fully understands and adheres to the following. It is the supplier's responsibility to ensure:

- CEiiA shall be provided up-to-date copies of Quality Management System certification including scope of certification.
- CEiiA shall be informed by the approved supplier when approval bodies are changed, and certificates are re-issued or revoked.
- CEiiA shall be informed by the approved supplier when certificates scopes are amended which would affect work currently undertaken or scheduled for future delivery. This would also include any change of address.

2.6 Right of Access

Suppliers and their sub-suppliers shall provide to CEiiA:

- The right of access to facilities where parts of the contracted activities are being performed including sub-supplier's premises;
- Information pertaining to the fulfilment of requirements in the contract
- Unrestricted opportunity to evaluate supplier compliance with this document
- Unrestricted opportunity to conduct verification of product conformity to contract requirements
- Assistance for evaluation, verification, validation, testing, inspection or release of the product to verify that contract requirements have been accomplished at the supplier's or sub-supplier's premises
- Working area and facilities
- The necessary equipment available for reasonable use for performing verification
- Supplier and/or sub-supplier's personnel for operation of verification equipment as required
- Access to information and communication facilities
- The necessary supplier documentation, to confirm product conformance to specification
- Copies of necessary documents, including those on electronic media
- Confirmation of capacity constraints

3. QUALITY MANAGEMENT REQUIREMENTS

CEiiA is required by EN9100 to apply appropriate controls to their direct and sub-tier external providers to ensure that requirements are met (EN9100 - 8.4.1). The sections following detail the minimum controls that the supplier shall implement to meet those requirements.

Suppliers shall plan, implement, and control the processes needed to meet the requirements for the provision of products and services to CEiiA. Specifically, this will be focused on the following:

- Review of the Requirements for Products and Services
- Design and Development provision (inputs, controls and outputs)
- Configuration Management
- Process Control
- Control of Externally provided Processes, Products and Services (importantly):
- Control of Equipment's, Tools and Software
- Validation of Special Process
- Production Process Verification
- Release of Product and Services
- Control of Non-Conformance
- Performance Evaluation
- Improvement Activities

3.1 Review of the Requirements for Products and Services

The supplier shall ensure that they have the ability to meet CEiiA requirements for products and services. This review will cover but not be limited to

- Scope of certified approval against what product or service is being requested
- Technical ability i.e., can equipment or employee skills meet the requirements of the drawings.
- Capacity constraints
- Statutory and regulatory requirements
- Contract or order requirements differing from those agreed at tender
- Drawing pack i.e. tolerancing, datum's and geometric tolerancing, material requirements (ensuring the material is available in size and condition stated), special processes, specific drawing notes including adherence to standards quoted within the context, destructive and non-destructive testing requirements i.e. mechanical, electrical, software etc.
- Design and verification – if undertaking this requirement for CEiiA understand the conditions of the contract as highlighted in para3.2.
- Reference documentation - it is the responsibility of suppliers to obtain, review, work to and maintain current issues of specifications and standards from appropriate sources.
- Additional Resources – when reviewing the process controls required to assure compliance to the documentation pack, should the requirement for fixturing, hard gauging, specialist test equipment, specialized training etc, be identified this must be communicated to CEiiA It is not acceptable if risk is identified and no action is undertaken or communicated to CEiiA due to timescales or financial constraints. This will also apply to sub-contractors undertaking work on the product.
- Supplier selection of sub-contractors. CEiiA must be informed if sections of work are to be subcontracted. CEiiA reserve the right to audit that supplier if it is deemed a perceived risk to contractual requirements. Special Processes are covered in section 2.2.

3.2 Design and Development Provision

In case of if undertaking design and development work for CEiiA the subcontractor is bound by the requirements of ISO9001 as a minimum. If identified by CEiiA the additional requirements of EN9100 for aerospace contracts will be required.

3.3 Configuration Management

The supplier shall plan, implement and control a process for configuration management to ensure the identification and implementation of changes when required by CEiiA in the supply of products and services. If a change is requested by CEiiA and can be accommodated this must be detailed in a change to CEiiA's original purchase order and detailed on all supplier process documentation.

3.4 Process Control and Verification

CEiiA require the supplier to demonstrate control through the production process. The supplier shall demonstrate confidence that the processes have been carried out as planned and therefore be able to demonstrate the conformity of those products and services. This can be undertaken by the flow of information associated in the following documentation.

The following is an example of how the supplier can incorporate these activities that will show the flow of information needed to control the process (similar processes and documentation that meet the requirement are acceptable):

- Value Stream Mapping
- Process Flow Diagrams (identifying key characteristics, inspection stages, processes, frozen operations if identified by CEiiA (no changes allowed unless agreed by CEiiA), associated documentation. Examples of layouts can be requested PFMEA – Process Failure Mode Effect Analysis. Critical in analysis of the process flow showing anticipation of risks and actions to nullify those risks to the process
- Control plans – detailing the stages of the process where inspection and our documenting of special process monitors are required
- Inspections plans – identifying by whom (level of trained operators), with what (equipment's to be used), how (standard operation) and the frequency of how those checks/inspections will be carried out.
- Further to this, the supplier shall demonstrate the eradication of variability in the process (if required by CEiiA on critical processes) using process capability measurement, statistical process control and MSA studies. A Quality Plan will be required when specific controls not covered by ISO9001 and EN9100 certification are required by CEiiA.

3.5 Control of Externally Provided Processes, Products and Service

The supplier, as the recipient of the contract, shall be responsible for meeting all requirements, including work performed by the supplier's sub-tier suppliers.

Where the supplier intends to sub-contract work or service normally undertaken by the supplier, a written agreement shall be in place between CEiiA and the supplier indicating the reason for the sub-contract and the sub-tier sub-contractor to be used.

When the supplier uses sub-tier sources to perform work on products and/or services for CEiiA, the supplier shall flow down to its sub-tier sources, all the applicable technical and quality requirements contained in the CEiiA contract. This will:

Ensure that externally provided processes remain within the control of their own quality management system define both the controls that it intends to apply to an external supplier and those it intends to apply to the delivered product.

CEiiA representatives, customers and/or end users shall be allowed access to the sub-supplier's plant and facilities for the purpose of surveillance and inspection.

3.6 Control of Equipment, Tools and Software

Equipment, tools and software programs used to automate, control, monitor or measure production processes shall be validated prior to release for production and shall be maintained.

The supplier shall be responsible for maintaining traceability to national standards whether those items are calibrated internally or externally.

Storage requirements shall be defined for production equipment or tooling in storage including any necessary periodic preservation or condition checks.

3.7 Validation of Special Processes

A special process is a process that generates outputs that cannot be measured, monitored, or verified non-destructively or cost effectively. Deficiencies cannot be detected until after products are in use.

In order to prevent output deficiencies, special processes must be periodically validated in order to prove that they can generate planned results. Periodic validation is usually performed which will define:

- the criteria for the review and approval of the process
- the maintenance of the approval
- approval of the facilities and equipment
- qualification of persons
- specific methods and procedures for implementation and monitoring the processes
- detail the documentation to be retained.

3.8 Production Process Verification

When indicated on the purchase order the supplier shall produce a First Article Inspection report (FAIR) to verify the manufacturing process using a representative item from the first manufacturing run of a new part or assembly. The purpose of the FAIR is to verify that the production processes, production documentation and tooling are capable of producing parts and assemblies that meet requirements. This process shall be repeated when changes occur that invalidate the original results (this will include transfer of work to another site, drawing changes, process changes etc.). The FAI requirement, once invoked, shall continue to apply even after initial acceptance.

The FAI report will be produced in accordance with EN9102 and shall be provided with the delivery of goods. Guidance on how CEiiA require First Articles to be completed is detailed in CEiiA's 'First Article Inspection Procedure. A copy can be supplied by CEiiA Quality Department. It is strongly advised this is reviewed and its requirements understood. Its content details when a Partial/delta FAI is required and:

- A change in design potentially affects form, fit or function.
- A change in manufacturing source, process, inspection method, location of manufacturer, tooling, or material potentially affects form, fit or function.
- The FAI report shall include all certification indicating conformity of materials, special processes, calibration, testing and personnel training qualification where applicable.

3.9 Release of Product and Services

Suppliers shall supply conforming goods and services on time in full (OTIF) including all required correct documentation and certification where applicable.
Certification refers to any document that states the goods or services meet or conform to specification or purchase order requirements. These include, but are not limited to; Certificate of Conformity, Certificate of Compliance, Certificate of Analysis, Certificate of Attestation and Certificate of Calibration.

The certifying document shall be deemed as an authorized contractual guarantee that the goods and services reference on the certificate meet drawing, specifications, technical data and purchase order requirements. A signed copy or digital signature will be acceptable, but Certificates must be traceable to the certifying quality representative or company official as per ISO9001 requirements.

3.10 Supplier Documentation

On each certification document, the following data/information shall be included (normally referred to as a CofC or Release Note):

- Certificate or delivery unique identifier / Certification / Delivery Note number
- Certificate Date
- Purchase order number
- Drawing number and / or part number and revision (as stated on Purchase Order)
- Batch unique identifier (Batch number / Lot number / Date code / Serial number)
- Quantity
- Supplier Name and Address
- Statement that goods and / or services conform to the specified requirements
- Original Manufacturer's name, part number and lot / date code (when applicable)
- Reference to all concessions/Production permits applicable
- Reference to current First Article Inspection Report where applicable
- Reference to the Quality Management System release.

3.11 Certificate of Conformance

For deliveries that apply quality condition a certificate of conformity shall be supplied with delivered goods or services that meet the above traceability requirements. The Supplier shall deliver all products and services in accordance with National and European Laws and regulation, namely the European Directives for Product Safety.

3.12 Calibration and Test Certification

Where calibration and test certification are issued to CEiiA information shall include:

- The calibrated test apparatus / instrument / standard used. These will be traceable to Portugal or the national equivalent from sources other than Portuguese.
- Calibration / test specification used, including tolerances and criteria.
- Items outside specified limits will be identified, especially if the item has undergone authorized repair to bring it into specification.

3.13 Late Deliveries / Short Deliveries

Suppliers shall immediately notify the buyer indicated on the purchase order if non-delivery, short or late deliveries are anticipated.

3.14 Completeness of Supplied Documentation

Certification documentation supplied to the requirements of any CEiiA purchase order will be rejected and deemed not complete should it transgress any the following:

- Certification supplied with CofC is illegible i.e. faint, blurred or ambiguous

- Certification supplied with concession/production permit whose approval is outstanding
- Incorrect / different material or treatment certificates being referenced or certificates that do not tie up with FAI documentation
- No quality representative authorizing release is identified on the CofC.
- Alternative material and or treatments – will be rejected if authorized certification is not attached to the CofC i.e. production permit or concession agreed by CEiiA Control of Non-Conformance

CEiiA will inform the supplier of nonconformities that are highlighted at any stage of CEiiA's process flow including, but not limited to, trials and subsequent service.

The supplier shall respond to the Non-Conformance Report when raised. The Non-Conformance report is structured with the following information:

- Problem statement
- Containment Action (in production, in stores, in transit, delivered product)
- Root Cause Analysis (see below)
- Corrective Action
- Implement Corrective Action
- Define and Plan Preventative action to prevent reoccurrence
- Review of Implementation or actions

Supplier will submit on the moment or before the agreed verification date, evidence of the implemented corrective/preventative action. This evidence will allow the Ceiia Quality Engineer to close the Non-Conformance report.

3.15 Root Cause Analysis (RCA)

When nonconformities occur, the supplier must perform Root Cause Analysis (RCA) and corrective action activities to prevent recurrence of the problem. CEiiA recommend that the suppliers Improvement teams use industry standard root cause analysis tools to aid in identifying these issues i.e. 5 why methodology & Cause and Effect Diagram (Ishikawa or fishbone).

3.16 Application for Concession or Production / Deviation Permit

Suppliers shall generate the Concession or Deviation Permit and wait for written CEiiA approval. Supplier report must include the proposed corrective action to eliminate the cause and prevent reoccurrence.

3.16.1 Production permit

Production Permits / Deviations are considered permission to produce an item that deviates from design data. This may be because of design anomalies, material availability issues or other unforeseen reasons prior to manufacture. Requirement for a production / deviation permit should be identified by the supplier at contract review or production planning.

Completed production / deviation permits shall be submitted to the procurement representative indicated on the purchase order. All Production permits must be referenced on the applicable certificate of conformity (using the CEiiA approved concession number).

Any production prior to production / deviation permit approval shall not occur unless entirely at the supplier's own risk. Products delivered against CEiiA approved production / deviation permit are not considered as nonconforming.

3.16.2 Concessions

In CEiiA, it´s the politic of quality not to accept a product that fails to meet the required standard. In certain circumstances, however, concessions will be considered by CEiiA. This will allow, when approved, the supplier to deliver product against agreed deviations for a set number of product or parts.

Completed concession forms shall be submitted to the procurement representative indicated on the purchase order.

Delivery of nonconforming product shall not occur unless an approved concession is in place.

4. RECORD RETENTION / DESTRUCTION REQUIREMENT

Suppliers shall retain records relating to processing, testing, calibration, manufacture, supply, traceability and certification for a minimum of **5 years** unless otherwise stated by contract.

Any loss or potential compromise of any classified material must be reported to CEiiA without delay.

5. PERFORMANCE EVALUATION

CEiiA requirements for suppliers monitoring, measurement, analysis and evaluation of internal performance is detailed in ISO 9001 para9. CEiiA will evaluate the supplier against "*On Time Delivery*" and "*On Quality Delivery*" for each purchase order issued.

6. COMPETENCE, TRAINING AND AWARENESS

The supplier shall ensure personnel processing orders or performing work affecting conformity to product or service are trained and aware of the relevance and importance of their activities in relation to meeting the requirements of CEiiA purchase orders and associated documentation.

7. IDENTIFICATION AND TRACEABILITY

Traceability is a crucial factor in high end and safety critical products and is a basic requirement unless agreed in writing. Suppliers shall provide documentation that includes revision / issue nos., batch numbers, lot codes or where relevant date codes and serial numbers of goods provided.

8. PRESERVATION OF PRODUCT

The supplier shall preserve the product during internal processing, storage and delivery to the intended destination.

8.1 Deviation from Design Data

Deviation from design data shall not occur unless an approved deviation permit from CEiiA is obtained.

8.2 Foreign Object Debris (FOD)

The supplier shall establish a process to detect and prevent Foreign Object Debris. This should be in accordance with NAS412 or AS9146. As a minimum the process shall include:

- FOD process review
- Training of FOD practices
- Material handling and product protection
- Tool / hardware accountability
- Lost items search and documentation process
- Physical entry control into FOD critical areas
- Inspection for foreign objects prior to closing apertures and compartments during assembly

8.3 Moisture Sensitive Level (MSL)

Moisture sensitive components shall be packaged in accordance with IPC/JEDEC J-STD 033. The Moisture Sensitivity Level (MSL) must be clearly identified on the outer packaging.

8.4 Electrostatic Discharge (ESD)

Where appropriate, suppliers shall provide adequate protection measures against ESD damage to goods and CEiiA property. This should be in accordance with MIL-STD-1686 or ANSI/ESD S20.20. Electronic Components shall be handled, packaged and supplied in accordance with BS EN 61340-5-1 or as specified in the contract conditions with CEiiA.

8.5 Shelf Life

Goods and products containing items with finite shelf life shall have the expiry date identified on the product and the delivery documentation. The remaining shelf life must be a minimum of 80% of the total shelf life for the material at time of delivery unless otherwise specified.

8.6 Packaging

The supplier shall adequately plan for packaging designed to prevent product contamination, deterioration, damage or loss. Suppliers should provide expendable packaging or returnable containers, where appropriate, of sufficient density and protection from likely damage that could occur. The use of approved industry standard labelling and bar-coding shall be in accordance with any contractually agreed packaging specification.

9. COUNTERFEIT PRODUCT PREVENTION

Where appropriate, the supplier shall establish and maintain a counterfeit parts / material prevention and control plan using AS5553 and/or AS6174 to ensure that counterfeit work is not

delivered. The purpose of the supplier's plan shall be to develop a robust process to prevent the delivery of counterfeit commodities and to control commodities identified as counterfeit. Where possible, semi-conductor distributors should be certified to AS6081

10. OBSOLESCENCE MANAGEMENT

Obsolescence Management is 'the coordinated activities to direct and control an organization with regard to obsolescence. The suppliers shall notify CEiiA of any pending obsolescence, the relevant last time buy date and last time ship date at least 6 months prior to the last time buy date.

11. BUSINESS CONTINUITY / DISASTER MANAGEMENT

Suppliers should have in place a business continuity plan. This includes requirements to plan, establish, implement, operate, monitor, review, maintain and continually improve a documented management system to protect against, reduce the likelihood of occurrence, prepare for, respond to, and recover from disruptive incidents when they arise.

Essentially this is a management plan that ensures no disruption to the supply of goods to CEIIA should the business fall foul of environmental circumstances such as fire, flood, power failure etc. This will include but not be limited to safety stocks of goods, fire protection of tooling/Jigs, safeguarding essential key machinery, off site holding of key software etc.

The extent of application of these requirements depends on the supplier's operating environment and complexity.

12. CHEMICALS AND HAZARDOUS SUBSTANCES

Nothing in this section shall reduce or limit any statutory duty or legal obligation of CEiiA or the supplier.

12.1 Safety Data Sheets

Safety data sheets (SDS) provide information on chemical products that help users of those chemicals to make a risk assessment. They describe the hazards the chemical presents, and give information on handling, storage and emergency measures in case of accident. By law suppliers of chemicals must provide an up to date safety data sheet if a substance is classified as dangerous in accordance with the Classification, Labelling and Packaging (CLP) Regulation 1272/2008.
If the supplier is required, under, or in connection with the contract, to supply articles or components of articles that, in the course of their use, maintenance, disposal, or in the event of an accident, may release hazardous materials or substances, they shall provide to CEiiA a list of those hazardous materials or substances, and for each hazardous material or substance listed, provide an SDS.

12.2 Registration, Evaluation, Authorization and Restriction of Chemicals (Reach)

REACH applies to substances manufactured or imported into the EU in quantities of 1 tonne or more per year. Generally, it applies to all individual chemical substances on their own, in preparations or in articles. The supplier shall disclose such information to the CeiiA for the purpose of compliance

with the REACH regulation. For more information please contact the CEiiA supply chain representative.

13. SENSITIVE AND CEIIA PROPRIETY DATA

CEiiA propriety and customer technical data must only be shared with 3rd party suppliers who have:

- Been approved by CEiiA and the owner of the technical data.
- Confirmed in writing (e.g., hardcopy letter, email with return address header) that they are authorized to receive such data and they understand the implications of and requirements for handling sensitive and proprietary technical data.

Principally where data is identified as sensitive or CEiiA Proprietary Data, restrictions apply to the control, handling and monitoring of such data. Only authorized personnel shall have access to restricted data and the data shall be controlled in such a way as to prevent unauthorized transmission or access.

CEiiA reserve the right to issue an NDA where CEiiA deem sensitive information will be shared with the supplier.