



**AKAER QUALITY REQUIREMENTS FOR
SUPPLIERS**

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REVISION SHEET

REVISION: 08	DATE: October, 22th 2021
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<p>DESCRIPTION:</p> <p>Updated chapter 4.1 – Table 4 1 - Applicable requirements (modified requirements for Services - Maintenance, Calibration, Inspection and Testing)</p> <p>Updated chapter 4.1 – Inserted the text “Certificates and QAF (Supplier Assessment Questionnaire) can be sent to the e-mailqualidade.akaer@akaer.com.br with the title “Certificates”.”</p> <p>Updated chapter 4.1 – Inserted the text "For inclusion of the Supplier in the LFA, specific requirements of the Programs may also be used."</p> <p>Updated chapter 4.3 – Included table 4-7 - Delivery Documentation - Direct Services</p>

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<p>DESCRIPTION:</p> <p>Updated chapter 1 – Inserted in the text "AQRS requirements";</p> <p>Updated chapter 4 – Excluded 4-2 - Criticality Levels;</p> <p>Updated chapter 4.3 – Text change inserting the term basic documentation;</p> <p>Updated chapter 8.4.2 – Change of text regarding documentation that must allow for</p>



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traceability;

Updated chapter 8.6 – inserted term "basic documentation";

Updated chapter 8.7 – correction text "AKAER will coordinate the final response and disposition with the supplier.";

Updated chapter 12.2.1 – Inserted in the text Direct Material "or service";

Updated chapter 12.2.3 – Removed from text "refrigeration oils, packaging".

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Updated Table 4.4 - Included risk analysis for supplying counterfeit parts;

Updated chapter 8.1.4 - Included requirements and definitions;

Updated chapter 8.4.5 - Included note;

Updated chapter 8.5.1 - Text update and requirements inclusion;

Updated chapter 8.5.2 - Inclusion of requirements for documentation;

Updated chapter 8.5.5 - Text update and requirements inclusion;

Updated chapter 11.6 - Text update and requirements inclusion.



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DESCRIPTION: Updated chapter 4: changed requirements for Qualification and Assessment Process applied to the Suppliers. – Added sub-section 4.1- Supplier Risk Analysis and moved sub-section 4.1 – Selection and Control of Suppliers to sub-section 4.2.	
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DESCRIPTION: Update Table1- Supplier Classification - Minimum Requirements	
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1 - OBJECTIVE

This Supplier Quality Requirements Manual constitutes an extension to the contract between the (Supplier) and the Akaer group companies, covering the items (Goods) as described in the Purchase Order.

Akaer Quality Requirements for Suppliers (AQRS) is the set of basic and operational requirements of Quality Management System expected to be accomplished by suppliers.

Supplier's acceptance of the Purchase Order shall represent Supplier's agreement to the requirements stated therein and herein, without modification, addition, or alteration. In the event of any inconsistencies between the Purchase Order and the requirements set forth below, the terms and conditions of the Purchase Order shall prevail.

Akaer's Terms and Conditions should be accessed by the Supplier at the web site www.Akaer.com.br under the "AKAER QUALITY REQUIREMENTS FOR SUPPLIERS" link (<http://www.Akaer.com.br/en/certifications/>) or requested to Akaer representative. It is the responsibility of the Supplier to access AQRS at the URL address to verify its revision status and implement it.

Chapter 3 is applicable and mandatory to all goods and services acquisitions, and should be considered together with "Supply Terms and Conditions".

According to the complexity of supplied products and services, some AQRS requirements can be considered unnecessary for the Supplier Qualification Process. The complexity of the supply is defined in chapter 4.

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2 - REFERENCE DOCUMENTS

- AS 9100 - Quality Management Systems - Requirements for Aviation, Space, and Defense Organizations.
- AQAP 2110, Edition D Version 1 - NATO Quality Assurance Requirements for Design, Development and Production
- MSIGA – AKAER Integrated Management System Manual.

3 - SUPPLIER CODE OF CONDUCT

Akaer believes that a strong commitment and a strategic approach to corporate responsibility are essential for managing the challenges and opportunities of a global environment.

3.1 Ethics

Suppliers are expected to conduct their business ethically and to act with integrity. Ethical requirements include the following aspects:

Business Integrity: Suppliers are expected not to engage in or tolerate any form of corruption, extortion, or embezzlement. Suppliers will not offer or accept bribes or other illegal inducements to/from their business partners. It is expected that suppliers do not offer gifts or any other kind of personal benefit to Akaer employees resulting from the relationships with the suppliers.

Fair Competition: Suppliers will conduct their business with fair competition and following all applicable antitrust laws.

Privacy & Intellectual Property: Suppliers will safeguard and make only appropriate use of confidential information and ensure that all employees and business partners' privacy and valid intellectual property rights are protected.

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3.2 Export Control

It is Akaer’s policy that all its business relationships have to be conducted in strict compliance to the export control rules regulated by the origin country of materials, data, or information.

Countries establish export control for transfer of physical goods, data, information, and technologies, which can be used for terrorist purposes, chemical and nuclear weapons development, or for natural meager resources national security control and protection, regional stability, or for external policy interests.

Ensuring the accomplishment of these rules, Akaer establishes procedures and monitors its buying and selling processes to obtain accurate and enough information about export and re-export control, tracking from the origin until the use and/or end-user, with appropriate protection, under the best levels of security and reliability.

Suppliers must comply with the Akaer Non-Disclosure Agreements prior any intent of commercial relationship with Akaer.

Every document demanded to suppliers’ searching and selection process must assure there are provisions of commitment for export control rules among the interested parties.

Furthermore, for the purpose of this process, is considered eligible: accurate and precise information about eventual restrictions of the business, jointly with the materials declarations of origin and regulated classifications.

3.3 Labor

Akaer expects the suppliers to comply, as a minimum, with all applicable local laws and regulations related to labor and employment including, but not limited to, minimum wage, maximum daily workload, days off, compensation, freedom of association, right to organize and collective bargaining. Suppliers must protect the human rights of their employees and treat them with dignity and respect. This includes the following aspects:

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Prevention and Eradication of Child Labor: Akaer does not tolerate child labor in our supply chain. International Labor Organization asserts that Suppliers must avert any sort of child labor in their business operations.

Freely Chosen Employment: Forced labor, including bonded or involuntary prison labor, must not occur on the Suppliers.

Diversity and Inclusion: The supplier is expected to offer equal employment opportunities and paid compensation without any discrimination.

Freedom of Association: The supplier is expected to recognize the principle of association freedom and the right to collective bargaining.

3.4 Health and Safety

Suppliers are expected to provide a safe and healthy working environment. As a minimum, the supplier must comply with all applicable health and safety laws, regulations, and standards beyond the Akaer established procedures. The supplier shall take appropriate action, such as policies, standards, procedures, contingency measures, and management systems, to prevent occupational illnesses and work-related accidents and to provide a safe and healthy workplace to its employees.

3.5 Environment

Suppliers shall be sensitive as to their impact on the local communities and environment (including, but not limited to, atmospheric emissions, water discharge, disposal of hazardous waste and toxic substances). Supplier shall comply with the applicable environmental laws and standards in all your business activities.. Suppliers should be careful when handling hazardous materials or operating processes or equipment that use hazardous materials to avoid unplanned releases into the workplace or the environment.

Additional requirements for Specifics supply may include meeting ROHS1 and REACH2 requirements. When not formally specified in the procurement process, Meeting these requirements will be considered a differential.

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4 - APPLICATION

This document is applicable to all suppliers and their respective supplies with potential impact on products, and services provided by Akaer.

The criteria for evaluating and approving suppliers and their respective supplies are presented in table 4-1 - Preferred evidence for inclusion in the LFA.

Chapters 5 to 11 of this AQRS are mandatory to all direct suppliers of materials and services, and can be used as a guide for other classes of suppliers.

Akaer may choose to use a Supplier that does not meet these requirements, as long as it does not conflict with the customer requirements. In these cases, the risks will be identified and treated by Akaer, which may demand additional evidence and/or alternative compliances with the requirement by the supplier.

Supplier shall notify Akaer in writing within 48 hours of any change of status to its Quality Management System, relocation, changes, or upper management including the Quality Management Representative.

The supplier is responsible for notifying any change in the certification/registration/accreditation or 3rd part audit findings within (2) business days after receiving notification of the change or finding. Examples of changes in registration include recertification, suspension, or expiration.

The non-certified/registered/accredited Suppliers, when this certification is made mandatory by Akaer, are subject to removal from the Qualified Supplier List. If Akaer elects to continue a business relationship with the supplier, control levels shall be amplified, such as QMS and/or Special Process audits by Akaer, if appropriate.

Suppliers may be required to reimburse Akaer for the cost of conducting these audits until certification/registration/accreditation is achieved.

Supplier shall grant Akaer (or Akaer customers or any government regulatory agencies) access to its facilities, including the freedom to witness and audit all phases of manufacturing, testing, and storage of goods sold to Akaer. Pertinent and contract-related

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documents and records are subject to any limitations or controls required to ensure compliance with Export Control regulations.

If the supply is related to design data, approved or accepted by the certification authority and/or civil or military airworthiness under the Akaer contract, the Supplier agrees that its records and facilities involved in carrying out the supply may be subject to inspection and audit by any authorized representative.

4.1 Inclusion of Suppliers in the List of Approved Suppliers (LFA)

Akaer's List of Approved Suppliers (LFA) presents the direct suppliers of materials and services, with the respective scope of supply and any exclusions/limitations of approval.

For approval, a Qualification process is carried out, in which the risks of the supplier and approved supplies are evaluated. This Qualification process is documented in the Supplier Evaluation Form.

The selection of suppliers must take place in accordance with Akaer's internal procedures. The supplier must maintain satisfactory performance to remain on the AKAER Approved Supplier List (LFA).

For inclusion of the Provider in the LFA, specific requirements of the Program(s) may also be used.

The Qualification and Approval process is established based on the scope(s) of supply defined for the supplier, by the classification and type of supplier, as shown in table 4-1. For questions about the terms used, see Chapter 12 – Terms and Definitions.

Table 4-1 – Preferred evidence for inclusion in the LFA

Supplier Class	Type of Supply	Preferred evidence for inclusion in the LFA	Additional Evidences
Direct - Materials	Finished Product (Includes non-standard Electronics/Electronics and software embedded in the Akaer product)	Certificates issued by 3rd party, when manufacturer (ISO9001 or higher) and/or	Additional aeronautical and defense product requirements may apply, such as being recognized in specific "Qualified Parts lists" (QPL)
		Proven experience for the type of supply	The manufacturer cannot appear in the Akaer end customer's list of "sanctioned countries"
	Produto Quimico	Certificates issued by 3rd party, when manufacturer (ISO9001 or higher) and/or Proven experience for the type of supply	
	Tooling Product	Certificates issued by 3rd party, when manufacturer (ISO9001 or higher) and/or Proven experience for the type of supply	
	Raw Material	Certificates issued by 3rd party, when manufacturer (ISO9001 or higher) and/or Proven experience for the type of supply	The manufacturer cannot appear in the Akaer end customer's list of "sanctioned countries"
	Standardized Products (electrical/electro/mechanical hardware)	Certificates issued by 3rd party, when manufacturer (ISO9001 or higher) and/or	Additional aeronautical and defense product requirements may apply, such as being recognized in specific "Qualified Parts lists" (QPL).
		Proven experience for the type of supply	The manufacturer cannot appear in the Akaer end customer's list of "sanctioned countries"
Packaging	Certificates issued by 3rd party, when manufacturer (ISO9001 or higher) and/or Proven experience for the type of supply		
Direct - Services	Machining/Assembling Services	Certificates issued by 3rd party, when manufacturer (ISO9001 or higher) and/or Proven experience for the type of supply	The manufacturer cannot appear in the Akaer end customer's list of "sanctioned countries"
	Services – Special Process and Non-Destructive Testing	Certificates issued by 3rd party, when manufacturer (ISO9001 or higher) and/or Recommended Nadcap Accreditation	
	Services – Maintenance, calibration, Inspection and Testing	ABNT NBR ISO/IEC 17025 accreditation, belonging to the Brazilian Calibration Network (RBC), for at least one of the quantities of interest or to the RBCL (Brazilian Network of Test Laboratories), as applicable. and/or	
		Being authorized by the equipment manufacturer and/or	
		Experiência comprovada para o tipo de serviço	
Services – Aircraft Maintenance	Certificate of Authority for Aeronautical Maintenance		
Specialized Service /consulting	Proven experience/qualification for the type of service		

When industry certification is mentioned, Akaer may require third-party certifications. In such cases, Suppliers will make a copy of their certificates available to AKAER.

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Any changes to the certification, such as changing the registration, updating, withdrawing or disapproving, must also be forwarded to AKAER immediately. If a supplier does not have third party certification, please contact AKAER for a mitigation / resolution plan where necessary.

Certificates and QAF (Supplier Assessment Questionnaire) must be sent to the e-mail mailqualidade.akaer@akaer.com.br with the title "Certificates".

For specific supplies, due to customer and market requirements, the supplier and its supplies must be included in "Qualified Parts Lists" (QPL)/"Qualified Products Database" (QPD) and recognized "Qualified Manufacturers List" (QML). Examples of QPLs/QMLs used by Akaer and its customers are:

- US Department of Defense: <https://assist.dla.mil/online/start/> and respective QPD;
- European Space Agency: [ESC QPL, https://escies.org/](https://escies.org/)
- Defense Logistics Agency (DLA): Qualified Products Database - <https://qpldocs.dla.mil/>
- Performance Research Institute (PRI): Qualified Products Database - <https://www.eauditnet.com/>
- NAVAIR: QPL-SIS (Supplemental Information Sheets) - <http://www.navair.navy.mil/qpl/>

4.1.1 Specific requirements for distributors and resellers

Distributors and Direct Material Resellers must guarantee, in all supplies, traceability to the original manufacturer. Dealers and distributors of products and materials intended for the aeronautical market are encouraged to obtain AS9120 certification. Distributors and resellers with prohibitions established by the aeronautical authorities, resulting from the identification of "Unapproved Parts", contained in the lists issued by the authorities, will not be approved. Akaer will notify the authority of any suspected unapproved part arising from the supplies, as detailed in 8.1.4. For reference, see the website: <https://www.faa.gov/aircraft/safety/programs/sups/upn/>.

4.2 Supplier Risk Analysis

AKAER analyzes the risk of the supplier and specific supplies during the supplier approval and supply assessment processes, respectively. The supplier approval process considers two types of Analysis: Business Analysis and Quality Analysis.

The Business Analysis is conducted by the purchasing area, during the initial contracting phase and must assess, when applicable, the risk mitigation measures related to exposure and dependence on the supplier. Typical outputs of the Business Analysis to mitigate the identified risks can be: establishment of a supply contract, establishment of guarantees, and acquisition of lots that guarantee the commitments assumed with customers and development of alternative suppliers.

One of the drivers for this risk analysis is the assessment of the criticality level of the supply, table 4-2.

Table 4-2 - Criticality Levels

Identificador	Nível de Criticidade	Descrição
X	Low	Materials of low criticality whose lack does not affect the production nor risks to personal, environmental and patrimonial security. In addition, there is facility of obtaining it in the market.
Y	Medium	Materials that have an intermediate degree of criticality and can be replaced by others with relative ease.
Z	High	Materials of high criticality which cannot be replaced by other equivalents in a timely manner without causing significant impact. The lack of such materials causes interrupt production or it affects the safety of human resources, the environment or the company's assets.

The Quality Analysis must evaluate, when applicable, the items shown in Table 4-3 - Quality Analysis Metrics and each item also has an assigned score and four possible outcomes:

Table 4-3 - Quality Analysis Metrics

Quality metrics to be evaluated

Does the Supplier have a QMS certified by ISO9001 or AS9100?

Does the result of Quality Analysis meet the expectations?

Is the supplier indicated by Customer, through dedicated QML/QPL?

Time in the Market (used when not having 3rd party certification)

Resultados Possíveis:	Meets Expectation	Partially Meets Expectation	Does Not Meet Expectation	Not measured
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Final supplier approval is subject to evaluation of at least one supply, comparing compliance with Supplier Performance requirements against established metrics for supplies that occurred during the evaluated period. The evaluation of the supplier's performance must consider, at a minimum, the requirements indicated in Table 4-4 - Supplier Performance, as follows:

Table 4-4 - Supplier Performance

Supplier Performance Requirements					
Meeting delivery deadlines					
Quality of Deliveries					
Readiness of the Technical Team					
Ease of Commercial Negotiations					
Resultados Possíveis:	Meets Expectation	Partially Meets Expectation	Does Not Meet Expectation	Not measured	

The supplier's risk analysis is built from the result of the qualification process and the assessment process. The Supplier Risk Index is obtained according to the score given in each assessed requirement. Possible results are shown in Table 4-5 - Supplier Risk Index below:

Table 4-5 - Supplier Risk Index

Supplier Evaluation Process				
Quality metrics to be evaluated (tab 4.3)				
Supplier Performance Requirements (tab. 4.4)				
Resultados Possíveis:	Low risk	Medium Risk	High risk	Not rated

The Quality area will identify actions to mitigate risks, registered in the QAF (Supplier Assessment Questionnaire), as shown below.

Supplier Evaluation Process				
Resultados Possíveis:	Low risk	Medium Risk	High risk	Not rated
Actions	Supplier will be communicated	Request mitigation/control actions	Do not buy or Request mitigation/control actions	

4.3 Selection and Control of Suppliers

The delivery documentation of direct materials can be done electronically via email: qualidade.akaer@akaer.com.br. Any specific requests of the purchase order (examples: FAI/AS9102 reports), PPAP/AS9145, etc.) must be made available to Akaer, for the receipt of the items.

Table 4-6, below, details the basic documentation required, by type of supply associated with the direct materials:

Table 4-6 - Delivery Documentation - Direct Materials

Supply Type	Certificate of conformity	Inspection Reports (dimensional, visual, functional, etc.)	MSDS Material Safety Data Sheet	Certificates of Compliance/Acceptance of Special Processes	Raw Material Certificate (Metallic Products)
Finished product	X	X	Not applicable	X	X (in some specific cases, only traceability to the country of origin may be applied)
Chemical product	X (When applicable, it must be valid)	Not applicable	X	Not applicable	Not applicable
Tooling Product	X	X	Not applicable	X	X (with traceability to the country of origin)
Raw Material	X	X	Not applicable	X	X (with traceability to the original manufacturer)
Standardized Products	X (with traceability to the original manufacturer)	Not applicable	Not applicable	Not applicable	Not applicable
Packaging	X	X	Not applicable	X (when required treatment)	Not applicable

Table 4-7 - Delivery Documentation - Direct Service

Supply Type	Certificate of conformity	Inspection Reports (dimensional, visual, functional, etc.)	MSDS Material Safety Data Sheet	Certificates of Compliance/Acceptance of Special Processes	Raw Material Certificate (Metallic Products)
Machining/ Assembling Service	X	X	Not applicable	X	X
Services - Special Processes and Non-Destructive Testing	X	X	Not applicable	X	Not applicable
Services - Maintenance, Calibration, Inspection and Testing	X (calibration certificate)	X (applicable for traceable process must contain the certificates of the standards used)	Not applicable	Not applicable	Not applicable
Services - Aeronautical Maintenance	X	X (when applicable)	Not applicable	X (when applicable)	Not applicable
Specialized Service / Consulting	X (when applicable)	X (when applicable)	Not applicable	X (when applicable)	Not applicable

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Some observations:

- Certificate of Conformity (see chapter 11.6);
- Inspection Reports: dimensional, functional and tests required in technical specification
- Special Process Certificates (examples: heat treatments, non-destructive inspection, electroplating, painting, etc.);
- Raw Material Conformity Certificates - Attention: if the raw material supplier is a reseller, the traceability of the supply chain to the raw material manufacturer must also be included.

The Supplier must previously consult Akaer about requirements applicable to the contracting of Special Processes and their documentation for specific projects.

5 - QUALITY MANAGEMENT SYSTEM

Akaer defines the requirements for the Quality Management System of its Suppliers, based on the International Standard ISO 9001 and AS 9100. When the International Standard ISO 9001 or AS 9100 certification is required, the Supplier shall fully comply with the requirements of the International Standard applicable for its Quality Management System and the additional requirement defined in this manual.

If specific certification is not required, AKAER expects the Supplier to meet the requirements set forth in this manual, as appropriate. There are requirements that may not apply to some Suppliers.

The supplier should refer to the ISO 9001 and/or AS 9100 Standard for additional information on the requirements in chapter 5 to chapter 10.

5.1 Quality Management System Requirements

The Supplier shall establish, implement, maintain and continuously improve a Quality Management System, including the necessary processes and their interaction.

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The Supplier Quality Management System shall address AKAER Quality Management System and applicable statutory / regulatory requirements. The Quality Management System must at least

- Determine the input required and the outputs expected from these processes.
- Determine the sequence and interaction of these processes.
- Determine and apply the criteria and methods needed to ensure the effective operation and control of these processes.
- Determine the resources needed for these processes and ensure their availability.
- Assign the responsibilities and authorities for these processes.
- Evaluate these processes and implement any changes needed to ensure that these processes achieve their intended results.
- Improve the quality management system and processes.

Relevant documented information to support the operation of its processes and ensure the conformity of products and services shall be planned, maintained, and retained as appropriate.

5.2 Leadership

Akaer expects the supplier's top management to demonstrate leadership and commitment to the quality management system to:

- Taking accountability for the effectiveness of a QMS.
- Promoting awareness of the process approach.
- Ensuring the resources needed for a QMS are available.
- Ensuring that a QMS achieves the intended results.
- Engaging, directing, and supporting persons to contribute to the effectiveness of a QMS.

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- Promoting continual improvement.
- Ensuring the focus on enhancing customer satisfaction is maintained.

6 - PLANNING.

6.1 Risks and Opportunities.

At a minimum, Akaer expects the Supplier's Quality Management System to determine the risks and opportunities that need to be addressed in its system to:

- Ensure that the quality management system can achieve the intended result(s);
- Enhance desirable effects;
- Prevent, or reduce, undesired effect;
- Achieve improvements.

The Supplier Quality Management System shall plan action to address risks and opportunities to integrate and implement the action into its quality management system processes and evaluating the effectiveness of those actions.

6.2 Quality Objectives

The Supplier shall establish and plan the quality objectives at the relevant functions, levels, and processes necessary for its quality management system. Planning how to achieve these objectives shall determine, at a minimum, the resources needed, the way to evaluate the results, and the deadline.

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7 - SUPPORT

7.1 Resources

The Supplier shall determine and provide the resources necessary for the establishment, implementation, maintenance, and continuous improvement of its Quality Management System. The resources needed shall consider, but not limited to, the issues below:

- People necessary for the effective implementation of its quality management system and the operation and control of its processes;
- The infrastructure necessary for the operation of its processes and to achieve conformity of its products and services;
- Necessary environment for the operation of its processes and to achieve conformity of its products and services;
- Resources needed to ensure valid and reliable results when monitoring or measuring is used to verify the conformity with its products and services requirements;
- Organizational Knowledge is necessary for the operation of its processes and to achieve conformity of its products and services.

The Supplier shall retain the appropriate documented information as evidence.

7.2 Competence

The Supplier shall determine that the necessary competence of the person working under its control affects the performance and effectiveness of its quality management system. It is necessary to ensure that persons are competent based on appropriate education, training, or experience.

Evidence of competence shall be retained as appropriate.

7.2.1 Security Authorizations

The supplier may be required to obtain Government Security Clearances for facilities,

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systems or persons handling classified information.

7.2.2 Visual Acuity

Unless otherwise specified, procedures shall be implemented to ensure that eye examinations, including visual acuity and color vision, as applicable, are administered by a medically qualified/trained person to all individuals performing visual inspection and/or other product acceptance activities that requires visual acuity.

Intervals shall not exceed one year.

Individuals shall be tested in at least one eye, either corrected or uncorrected.

The color perception test is only required once. Individuals must be able to properly distinguish and differentiate the colors used in the method where certification is required, the process being carried out or the inspection activity. Documentation shall be retained.

Records shall be retained for each individual.

Visual inspection (i.e. calibration, non-weld, in process, layout, dimensional)

Near vision requirements of:

Snellen 14/18, (20/25),

Jaeger 2 at not less than 12 inches

Visual Inspections on Welds American Welding Society Standard (AWS) D17.1

Nondestructive Testing (NDT) Aerospace Industries Association National Aerospace Standard (AIA/NAS) 410

Note: Vision tests may be replaced for the options listed above providing the equivalence is verified and documented by a licensed optometrist.

7.3 Awareness

The Supplier shall ensure that persons doing work under its control are aware of:

- Quality Objectives;

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- Their contribution to the effectiveness of the Quality Management System;
- Their contribution to products and services conformity;
- Their contribution to products safety, and
- The importance of ethical behavior.

7.4 Communication

Akaer expects the Supplier to have determined the internal and external communication relevant to its quality management system.

7.5 Documented Information

Supplier shall determine the documented information necessary to assure the effectiveness of its quality management system. Documented information identified as necessary for its Quality Management System shall ensure proper identification and description, format, and suitable approval process.

All documented information determined to be necessary for planning and operation of the Quality Management System shall be controlled, retained, and retrievable as appropriate to assure the evidence of conformity of its processes and products. When documented information is managed electronically, data protection processes shall be defined.

7.5.1 Control of Documented Information

Documented information shall be retained for a minimum period of 10 years or as specified by Akaer's record retention requirements or the Purchase Order and, will be made available upon request by Akaer or its customers at no charge.

All electronic documented information must be controlled, retained, and retrievable in accordance with the same requirements identified for hard copy records. For electronic records transferred from computer files, the storage media must be capable of maintaining data integrity throughout the retention period.

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Examples of Quality Documented Information to be retained are, but not limited to:

- Deliverable and non-deliverable software verification & validation
- First Article Inspection Reports
- Intermediate/Final Inspection and Test Records
- Training records
- Manufacturing/fabrication records (e.g., planning sheets, etc.)
- Nonconforming material disposition
- Procurement documents (supplier placed orders)
- Process control records (used as acceptance criteria)
- Related X-rays, fact sheets and acceptance reports
- Receiving inspection records (e.g., test reports, material certifications, etc.).

8 - OPERATION

8.1 Operational Planning and Control

The Supplier shall plan, implement and control the process needed to meet the requirements for the provision of products and services, and to implement the actions determined during planning phases.

- Determining the requirements for the products and services;
- Establishing criteria for the processes and the acceptance of products and services;
- Determining the resources needed to achieve conformity to the product and service requirements;
- Implementing process control according to the criteria;
- Determining and keeping documented information to the extent necessary to have confidence that the processes have been carried out as planned and to demonstrate the conformity of products and services to their requirements.

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- Determining the processes and controls needed to manage critical items, including production process controls when key characteristics have been identified;
- Engaging representatives of the affected organization’s functions for operational planning and control;
- Determining its process and resources to support the use and maintenance of the products and services;
- Determining the products and services to be obtained from external providers, and
- Establishing the needed controls to prevent the delivery of nonconforming products and services to Akaer.

8.1.1 Operational Risk Management

The supplier shall plan, implement and control an operational risk management process to comply with applicable requirements, which includes, as appropriate to its organization and products and services:

- Assignment of responsibilities for operational risk management;
- Definition of risk assessment criteria;
- Identification, assessment, and communication of risks throughout operations;
- Identification, implementation, and management of actions to mitigate risks that exceed the defined risk acceptance criteria, and
- Acceptance of remaining risks after implementation of mitigation actions.

8.1.2 Configuration Management

Supplier shall maintain a change control management and verification system for documents and electronic media, including applicable government, association, society, industry, and Akaer furnished configuration data.

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8.1.3 Product Safety

Supplier shall plan, implement and control the processes necessary to ensure product safety throughout the product lifecycle, as appropriate to its organization and product.

8.1.4 Prevention of Counterfeit Parts.

The supplier must plan, implement and control processes, appropriate to its organization and the product, to avoid the use of counterfeit or suspected counterfeit parts and their inclusion in the products delivered to Akaer.

Among other obligations, these processes must provide means of identification, traceability and retrieval of information and documentation that evidence the quality and origin of the products.

8.1.5 Products and Services Requirements

Supplier shall establish communication with Akaer in order to:

- Provide Information relating to products and services;
- Handling inquiries, contracts, or orders, including changes;
- Obtain Akaer feedback relating to products and services, including Akaer complaints;
- Handling or controlling Akaer property, and
- Establishing specific requirements for contingency actions, when relevant.

When determining the requirements for the products and services to be offered to Akaer, the Supplier shall ensure that any applicable statutory and regulatory requirements are defined.

The Supplier shall ensure that the special requirements of products and services are determined, that operational risks have been identified and that claims for the products and services offered by himself could be met.

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Before committing to supply products and services to Akaer, Supplier shall ensure its ability to meet the requirements through Requirements Review Process established. When Akaer does not provide a documented statement of their requirements, Akaer requirements shall be confirmed by Supplier before acceptance. The Supplier shall ensure that relevant documented information is amended, and the relevant persons are aware of the changes when requirements for products and services are changed.

8.2 Design and Development of Products and Services

The Supplier shall establish, implement and maintain an adequate design and development process to ensure the subsequent supply of its products and services.

8.2.1 Design and Development Planning

When determining design and development stages and controls, the Supplier shall consider:

- the nature, duration, and complexity of the design and development activities;
- the required process stages, including applicable design and development reviews;
- the required designs and development verification and validation activities;
- the responsibilities and authorities involved in the design and development process;
- the internal and external resource needs for the design and development of products and services;
- the need to control interfaces between persons involved in the design and development process;
- the need for involvement of Akaer and users in the design and development process;
- the requirements for the subsequent provision of products and services;

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- the level of control expected for the design and development process by Akaer and other relevant interested parties;

The documented information needs to demonstrate that design and development requirements have been met.

Design and development planning shall consider the ability to provide, verify, test, and maintain products and services.

8.2.2 Design and Development Inputs

The Supplier shall determine the essential requirements for the specific types of products and services to be designed and developed, considering at least:

- Functional and performance requirements;
- Information derived from previous similar design and development activities;
- Statutory and regulatory requirements;
- Standards or codes of practice that the organization has committed to implement;
- Potential consequences of failure due to the nature of the products and services, and
- When applicable, the potential consequences of obsolescence.

Inputs shall be suitable for design and development purposes, also complete, and unambiguous. Conflicting design and development inputs shall be resolved.

Documented information about design and development inputs shall be maintained by the Supplier.

8.2.3 Design and Development Controls

The Supplier shall apply controls to its design and development process to ensure that:

- The results to be achieved are defined;

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- Reviews are conducted to evaluate the ability of the results of design and development to meet requirements;
- Verification activities are conducted to ensure that the design and development outputs meet the input requirements;
- Validation activities are conducted to ensure that the resulting products and services meet the requirements for the specified application or intended use;
- Necessary actions are taken on issues determined during review or verification and validation activities;
- Documented information of these activities is retained, and
- Progression to the next stage is authorized.

Participants in design and development reviews shall include representatives from roles related to the design and development stages being reviewed.

When tests are necessary for verification and validation, these tests shall be planned, controlled, reviewed, and documented to ensure and prove the following:

- Test plans or specifications identify the test item being tested and the resources being used, define test objectives and conditions, parameters to be recorded, and relevant acceptance criteria;
- Test procedures describe the test methods to be used, how to perform the test, and how to record the results;
- The correct standard configuration of the product under test;
- The requirements of the test plan and the test procedures are observed, and the acceptance criteria are met.

Upon completion of design and development, Supplier shall ensure that reports, calculations, test results, etc. are able to demonstrate that their design for the product or service meets the specification requirements for all identified operating conditions.

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8.2.4 Design and Development Outputs

Supplier shall ensure that design and development outputs:

- Meet entry requirements;
- Are adequate for the subsequent processes for the provision of products and services;
- Include or reference monitoring and measuring requirements, as appropriate, and acceptance criteria;
- Specify the characteristics of products and services that are essential for their intended purpose and their safe and proper provision;
- Specify, as applicable, any critical items, including any key characteristics, and specific actions to be taken for those items, and
- Are approved by the authorized person(s) prior to release.

The Supplier shall define the data required to allow the product to be identified, manufactured, verified, used, and maintained.

8.2.5 Design and Development Changes

Supplier shall identify, review, and control changes made during, or subsequent to, the design and development of products and services, to the extent necessary to ensure that there is no adverse impact on conformity to requirements.

A process with criteria to notify Akaer prior to implementation of changes that affect its requirements must be implemented by the supplier.

Design and development changes shall be controlled in accordance with the Configuration Management Process requirements.

8.3 Control of Processes, Products and Services provided externally

The supplier must ensure that the processes, products and services provided externally comply with Akaer requirements.

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The Supplier shall be responsible for the conformity of all externally provided processes, products, and services, including from sources defined by Akaer.

Supplier shall ensure, when required, that Akaer-designated or approved external providers, including process sources (e.g., special processes), are used.

The use of directed sources does not relieve the responsibility for subcontractor control (i.e., an approved source for Non-Destructive Testing, Plating, Coating, etc.). Supplier shall require that external providers apply appropriate controls to their direct and sub-tier external providers, to ensure that requirements are met.

The Supplier shall determine the controls to be applied to externally provided processes, products, and services when:

- Products and services from external providers are intended for incorporation into the Supplier's products and services;
- Products and services are provided directly to Akaer by external providers on behalf of the organization;
- A process, or part of a process, is provided by an external provider as a result of a decision by the Supplier.

Criteria for the evaluation, selection, monitoring of performance, and re-evaluation of external providers shall be determined by the Supplier, based on their ability to provide processes or products and services in accordance with requirements from the evaluations.

Processes, responsibilities, and authority for the approval status decision, changes of the approval status, and conditions for controlled use of external providers depending on their approval status shall be defined by Supplier. Additionally, the supplier must:

- Maintain a record of its external providers that includes approval status (e.g., approved, conditional, disapproved) and the scope of the approval (e.g., product type, process family);
- Periodically review external supplier performance including process, product and service conformity, and on-time delivery performance;

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- Define the necessary actions to take when dealing with external providers that do not meet requirements;
- Define the requirements for controlling documented information created by and/or retained by external providers.

8.3.1 Purchasing Process

Supplier agrees that it will not enter into a subcontract for the procurement of any goods covered by a Purchase Order in their complete or substantially complete form without the prior written consent of Akaer.

No material substitutions, omissions, or modifications will be allowed without the prior written consent of AKAER.

The Supplier will assure that all material, services, and software procured from, or performed at sub-tier Suppliers is in conformance to contractual requirements and specifications and ensure that such requirements/specifications are flowed down to their sub-tier suppliers.

All special processes must be accepted by Akaer, its customer, and/or Nadcap.

The supplier shall have a counterfeit detection process for all electrical, electronic, electro-mechanical, and electro-optical component parts that meet the intent of SAE standard AS5553, Counterfeit Electronic Parts, Avoidance, Detection, Mitigation, and Disposition.

For all electrical, electronic, electro-mechanical, and electro-optical component parts delivered and/or used in the manufacture of deliverable products shall be from the Original Component Manufacturer (OCM)/ Original Equipment Manufacturer (OEM) or franchised distributors or Authorized Aftermarket Manufacturer (AAM).

All non-electrical standard parts, such as fasteners, nuts, washers, springs, O-rings, inserts, and pins, must have a certification from the Original Component Manufacturer (OCM)/ Original Equipment Manufacturer (OEM) or Authorized Aftermarket Manufacturer (AAM) or authorized distributor.

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If a part is not directly available from the OCM/ OEM/ AAM or franchised distributors (electronics) or an authorized distributor (non-electronics), it may be purchased from independent distributors, but evidence of supply chain traceability (chain of custody back to OCM / OEM / AAM should be provided. The Certification must clearly identify the name and location of all intermediaries in the supply chain, from the original manufacturer to the final source of the product delivered to Akaer

Note: Distributors in addition to the above shall include their company's certification for each part number shipped.

8.3.2 Purchasing Information

The Supplier shall ensure the adequacy of requirements prior to their communication to the external provider.

The Supplier shall communicate to external providers its requirements for:

- The processes, products, and services to be provided including the identification of relevant technical data (e.g. Specifications, drawings, process requirements, work instructions);
- The approval of:
 - Products and services;
 - Methods, processes, and equipment;
 - The release of products and services;
- Competence, including any required qualification of persons;
- The external providers' interactions with the supplier;
- Control and monitoring of the external providers' performance to be applied by supplier;
- Verification or validation activities that the supplier, or its akaer, intends to perform at the external providers' premises;
- Test, inspection, and verification (including production process verification);

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- The use of statistical techniques for product acceptance and related instructions for acceptance by the supplier;

Where Akaer owns the design of an article purchased from a supplier(first-tier) who further subcontracts all or portions of that work to other subcontractors (second-tier), the first-tier supplier's purchase order must state that the articles are for applicable Akaer's "end-use" and must be controlled per applicable purchase order requirements.

8.3.3 Type and Extent Control

Suppliers must provide raw materials test reports/certification results/laboratory analysis requirements (e.g., tensile strength, stress rupture, hardness, chemical composition, etc.), as defined by the product definition and/or the purchase order.

Where the supplier utilizes test reports to verify purchased products, the data in those reports shall be acceptable per applicable specifications. The supplier shall periodically validate test reports for raw material.

Upon receipt of AKAER purchase order requiring Government oversight (notify the Government Representative who services your facility or if there is none, the Government Inspection office nearest to your facility).

8.4 Product and Services' Provisions

8.4.1 Control of Production and Services' Provisions

The Supplier shall implement production and services provisions under controlled conditions. This control shall include, as applicable:

- The characteristics of the products to be produced, the services to be provided, or the activities to be performed;
- The results to be achieved;
- The availability and use of suitable monitoring and measuring resources;

- The implementation of monitoring and measurement activities at appropriate stages to verify that criteria for control of processes or outputs, and acceptance criteria for products and services, have been met.
- The use of suitable infrastructure and environment for the operation of processes;
- The appointment of competent persons, including any required qualification;
- The validation, and periodic revalidation, of the ability to achieve planned results of the processes for production and service provision, where the resulting output cannot be verified by subsequent monitoring or measurement;
- The implementation of actions to prevent human error;
- The implementation of release, delivery, and post-delivery activities;
- The establishment of criteria for workmanship (e.g., written standards, representative samples, illustrations);
- The accountability for all products during production (e.g., parts quantities, split orders, nonconforming
- Product);
- The control and monitoring of identified critical items, including key characteristics, in accordance with established processes;
- The determination of methods to measure variable data;
- The identification of in-process inspection/verification points when adequate verification of conformity cannot be performed at later stages;
- The availability of evidence that all production and inspection/verification operations have been completed as planned, or as otherwise documented and authorized;
- The provision for the prevention, detection, and removal of foreign objects;
- The control and monitoring of utilities and supplies (e.g., water, compressed air, electricity, chemical products) to the extent they affect conformity to product requirements;

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- The identification and recording of products released for subsequent production use pending completion of all required measuring and monitoring activities, to allow recall and replacement if it is later found that the product does not meet requirements.

8.4.1.1 Control of Equipment, Tools, and Software Programs

Supplier shall be ensured that the equipment, tools, and software programs used to automate, control, monitor, or measure production processes shall be validated prior to final release for production and shall be maintained.

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

Calibration Systems shall meet the applicable requirements of ISO 10012, ISO 17025, or ANSI/NCSL Z540.3. If ANSI/NCSL Z540.3 is applicable, the Handbook shall be used as the interpretive guide.

In accordance with the industry, standards, and guidance referenced above, stated reliability goals, accuracy ratios, and Significant–Out–Of–Tolerance condition criteria must be established.

The calibration interval analysis methodology used to maintain the reliability of Measurement and Test Equipment (M&TE) must have a stated reliability target to achieve a minimum 95% reliability target for the M&TE tolerance at the end of its schedule. Significant–Out–Of–Tolerance conditions are defined as any M&TE out–of–tolerance condition exceeding 25% of the product tolerance. These conditions require documented review of the impact on quality and notification to the AKAER if the product received by the Akaer has been affected.

The supplier shall generally select M&TE with an accuracy ratio of 10 to1 (product tolerance to M&TE tolerance) however, accuracy ratios as low as 4 to 1 are acceptable unless otherwise specified.

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Use of M&TE with accuracy ratios less than 4 to 1 is not permitted unless a detailed measurement uncertainty analysis per ANSI/NCSL Z540.3 indicates an uncertainty ratio of 1.5 to 1, or better, and the measurement process is maintained under statistical quality control.

8.4.1.2 Production Process Verification

Source Inspection is required for all FAIR's unless otherwise waived by Akaer Supplier Quality.

First Article Inspections (FAI) shall be performed in accordance with SAE AS 9102 and the additional requirements below:

- A full or partial FAI shall be performed for affected characteristics when any of the following occurs:
 - Change in design
 - Change in manufacturing source(s), process(s), inspection method(s), and locations of manufacture, tooling, or materials.
 - Change in numerical control program or translation to another media.
 - The natural or man-made event, which may adversely affect the manufacturing process.
 - Lapse in production for two years or as specified by the AKAER.
 - A replication of product part marking (via photograph or sample) that represents production marking must be included within the FAI Report
 - The Supplier holding the Akaer purchase order is responsible for assuring completion of the FAI Report for all finished part characteristics generated by sub-tier suppliers.
 - At any time, Akaer may request a complete FAI to be performed in lieu of a partial (delta) FAI.

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8.4.1.3 Validation and Control of Special Processes

Suppliers and all members of their supply chain that only provide special processes (not part manufacturing suppliers) accepted by Akaer. Nadcap accreditation shall be considered for the following special processes:

- Brazing;
- Chemical Processing;
- Coatings;
- Heat Treating;
- Materials Testing;
- Nonconventional Machining;
- Nondestructive Testing;
- Shot Peening, and
- Welding.

Supplier shall establish procedures for controlling special processes, including but not limited to:

Qualification or initial approval – Special Processes shall be qualified or approved by the Supplier before manufacturing the first delivery. Supplier shall keep available for Akaer review the following data:

Identification and address of the facility;

Identification of the special processes and applicable specification number;

Report of process parameters controls (temperature, pressure, concentration, pH, hardness, conductivity, etc.) according to the limits and frequency specified in the specifications;

Calibration standards list (including calibration reference procedures and calibration frequency);

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List of qualified personnel; evidence of their qualification (training, knowledge, experience, skills), and

Qualified materials list used in the process.

Qualification maintenance – Special processes shall be maintained through periodic verification. Periodic verification shall consist of monitoring the special process parameters at an interval established in the process specification requirements.

Flow down of the requirements – Supplier shall flow down applicable requirements and control of a special process performed by Sub-tiers. Supplier control of Sub-tiers shall include qualification, maintenance, control of Non-Conforming Product, and corrective action. Sub-tiers shall keep records of the list described on item 1 (above) as well.

8.4.2 Identification and Traceability

The Supplier shall use suitable means to identify outputs when it is necessary to ensure the conformity of products and services.

Configuration of the products and services shall be maintained in order to identify any differences between the actual configuration and the required configuration.

Supplier shall identify the status of outputs concerning monitoring and measurement requirements throughout production and service provision.

When acceptance authority media are used (e.g., stamps, electronic signatures, passwords), the Supplier shall establish controls for the media.

Supplier shall control the unique identification of the outputs when traceability is a requirement and shall retain the documented information necessary to enable traceability:

- Retrieval of data relevant to the manufacture of the product (raw material, treatments, tests and others);
- Verification of the provenance of the items supplied, allowing to eliminate the delivery of materials in disagreement with technical and commercial specifications;

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- The documentation must allow the item delivered to be traced from delivery at AKAER to the original manufacturer.

8.4.3 Property Belonging to Customers or External Providers

Supplier shall exercise care with property belonging to Akaer or external providers while it is under the Supplier's control or being used by the Supplier.

The Supplier shall identify, verify, protect, and safeguard Akaer or external providers' property provided for use or incorporation into the products and services.

When the property of Akaer or external provider is lost, damaged, or otherwise found to be unsuitable for use, the Supplier shall report this to Akaer or external provider and retain documented information on what has occurred.

Return all documents, records, gaging, stamps, or other Akaer supplied products upon written notification from Akaer or when business with Akaer has ceased.

8.4.4 Preservation

Supplier shall preserve the outputs during production and service provision, to the extent necessary to ensure conformity to requirements.

8.4.5 Post-Delivery Activities

If any goods are found to be defective or otherwise not in conformance with the requirements of the Purchase Order, Akaer may, in addition to its other rights and remedies, reject such goods and require their prompt correction or their replacement at Supplier's expense, including shipping and packaging charges.

Alternatively, Akaer may repair or replace such Non-Conforming goods at the Supplier's expense.

Note: If any product supplied is considered counterfeit, in addition to the aforementioned negotiations, the supplier is subject to legal penalties and blocking and/or elimination from the AKAER Approved Suppliers List.

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8.5 Aerospace Advanced Production Quality Planning Process

Suppliers shall implement the APQP (SCMH/IAQG), including APPAP (Aeronautical Part Approval Process) when invoked by drawing related documents, purchase orders, or any other contractual requirement.

8.6 Release of Product and Services

Supplier shall implement planned arrangements, at appropriate stages, to verify that the product and service requirements have been met. The release of products and services to Akaer shall not proceed until the planned arrangements have been satisfactorily completed, unless otherwise approved by a relevant authority and, as applicable, by Akaer.

Supplier shall retain documented information on the release of products and services. The documented information shall include:

- Evidence of conformity with the acceptance criteria;
- Traceability to the person(s) authorizing the release.

When required to demonstrate product qualification, the Supplier shall ensure that retained documented information provides evidence that the products and services meet the defined requirements.

The supplier shall ensure that all documented information necessary to accompany the products and services is present on delivery, as defined in the purchase order and basic documentation required in Table 4-6 – Delivery Documentation – Direct Materials.

Akaer’s verification by source inspection of goods shall not be deemed to constitute acceptance of any goods, which do not conform to the specifications thereof, or to waive any of Akaer’s rights or remedies arising by virtue of such defects or Non-conformances being discovered at a later time.

Akaer retains the right to invoke source inspection of Products, processes, and goods at the Supplier or sub-tier Supplier's facility. When invoked, the Supplier shall provide adequate resources to the Akaer representative requested in the course of verifying

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conformance to requirements. Contact Akaer at least two weeks in advance to arrange for source inspection. Source Inspection may be waived at the discretion of Akaer's Supplier Quality Assurance.

Unless otherwise noted in the Purchase Order, Source inspection may be required on the first article and delta first article parts. Source inspection may be required for follow-on production shipments. Should source inspection be required on an ongoing basis due to quality concerns, the cost of such services will be the responsibility of the Supplier.

When functional performance/test data is required, include the following minimum requirements:

- Test specification number, revision status, amendment number, and addendum.
- Part number / serial number and revision letter of material/component being tested.
- Test paragraph, required reading, actual reading (use positive statement, e.g., "No Leakage" if actual reading is not quantifiable).
- Date test was performed.
- Operator identification.
- Inspection approval signature / stamp.
- Blank entries that are not applicable shall be noted "N/A".

8.7 Control of Nonconforming Outputs

The Supplier is required to notify Akaer within 24 hours of any product and service that has escaped from the Supplier's facility. The Supplier is required to provide as much detailed information as possible including a complete description of the defect, the requirement, and specification(s), part numbers affected, PO numbers affected, quantity, method of discovery, any traceability information, and any inspection/ test data that may be applicable.

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The Supplier will submit the description of non-conformances along with a proposed disposition and completed corrective action to Akaer.

Akaer will forward the Supplier’s proposed disposition of the nonconforming product to the affected Akaer plant for potential customer submission and disposition. Akaer will coordinate the final response and disposition with the supplier.

When a nonconforming product is reported to Akaer, a nonconforming material document will be issued for all nonconforming products and will require immediate containment of all such Products under the Supplier's control. Disposition of Product will be provided to the Akaer promptly.

In certain circumstances, Akaer may need to use a nonconforming product supplied by a Supplier.

Failure of Supplier to respond will result in a potential change in approval status. At a minimum, a meeting will be held with the supplier to review the issues.

8.7.1 Control of Nonconforming

Supplier shall ensure that outputs that do not conform to their requirements are identified and controlled to prevent their unintended use or delivery.

The Supplier shall take appropriate action based on the nature of the nonconformity and its effect on the conformity of products and services. This shall also apply to nonconforming products and services detected after delivery of products, during, or after the provision of services.

The nonconformity control process shall be maintained as documented information including the provisions for:

- defining the responsibility and authority for the review and disposition of nonconforming outputs and the
- process for approving persons making these decisions;

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- taking actions necessary to contain the effect of the nonconformity on other processes, products, or services;
- timely reporting of nonconformities affecting delivered products and services to Akaer and relevant interested parties;
- The cognizant Akaer must be informed immediately (not to exceed 24 hours other next business days) of suspect nonconforming product shipped regardless of destination. Method of notification is determined per applicable Akaer requirements.
- defining corrective actions for nonconforming products and services detected after delivery, as appropriate to their impacts.

Supplier shall deal with nonconforming outputs in one or more of the following ways:

- correction;
- Ensure that related characteristics, which may be affected by rework or repair operations are identified and re-inspected after these operations are performed.
- segregation, containment, return, or suspension of the provision of products and services;
- Suppliers shall coordinate all reports of non-conformances for Akaer supplied material in accordance with the applicable Akaer requirements;
- obtaining authorization for acceptance under concession by a relevant authority and, when applicable, by Akaer.

Dispositions of use-as-is or repair for the acceptance of nonconforming products shall only be implemented:

- after approval by an authorized representative of the organization responsible for the design or by persons having delegated authority from the design organization;
- after authorization by Akaer, if the nonconformity results in a departure from the contract requirements.

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Articles deemed scrap must be clearly identified and rendered unusable within 30 days of final disposition unless otherwise instructed, in writing, by the applicable Akaer.

Counterfeit, or suspect counterfeit, parts shall be controlled to prevent re-entry into the supply chain.

Conformity to the requirements shall be verified when nonconforming outputs are corrected.

8.7.2 Customer Communication

Changes that may affect quality must be documented and communicated to the applicable Akaer Quality Assurance and/or Procurement Representative Prior to the change effectively.

8.7.3 Supplier Disposition Authority

Supplier disposition authority for Non-Conforming Product is limited to “Rework”, “Return-to-Supplier”, and “Scrap”. The Supplier shall notify Akaer in writing immediately if disposition actions taken affect the ability of the Supplier to deliver Product as specified or agreed upon.

Note: Rework is defined as a process performed entirely within the confines of the drawing and referenced specifications that will result in characteristic(s) that conforms completely to the drawings, specifications, and contract requirements.

9 - PERFORMANCE EVALUATION

9.1 Monitoring, Measuring, Analysis and Evaluation

Supplier shall determine:

- What needs to be monitored and measured;
- The methods for monitoring, measurement, analysis and evaluation needed to ensure valid results;

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- When the monitoring and measuring shall be performed, and
- When the results from monitoring and measurement shall be analyzed and evaluated.

Supplier shall evaluate the performance and the effectiveness of its quality management system. Documented Information of the results shall be retained, as appropriated.

9.1.1 Customer Satisfaction

Supplier shall monitor Akaer perceptions of the degree to which their needs and expectations have been fulfilled. The Supplier shall determine the methods for obtaining, monitoring, and reviewing this information.

Information to be monitored and used for the evaluation of Akaer satisfaction shall include, but is not limited to, product and service conformity, on-time delivery performance, Akaer complaints, and corrective action requests. The Supplier shall develop and implement plans for Akaer satisfaction improvement that address deficiencies identified by these evaluations, and assess the effectiveness of the results.

9.1.2 Analysis and Evaluation

Supplier shall analyze and evaluate appropriate data and information arising from monitoring and measurement. The results of the analysis shall be used to evaluate:

- Conformity of products and services;
- The degree of Akaer satisfaction;
- The performance and effectiveness of the quality management system;
- If planning has been implemented effectively;
- The effectiveness of actions taken to address risks and opportunities;
- The performance of external providers, and
- The need for improvements to the quality management system.

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9.2 Internal Audit

Supplier shall conduct internal audits at planned intervals to provide information on whether the quality management system, conforms to:

- The own requirements of its quality management system, and
- The requirements of international standard applied to its quality management system.

10 - IMPROVEMENT

Supplier shall determine and select opportunities for improvement and implement any necessary actions to meet requirements and enhance Akaer satisfaction.

10.1 Nonconformity and Corrective Action

When requested to provide corrective action, the supplier shall prepare a report documenting the occurrence, findings, and assessment of the affected product and submit it to the Akaer. Provide objective evidence of root cause analysis and implementation of corrective action that eliminates the risk of reoccurrence.

To ensure the effectiveness of the corrective action, suppliers shall perform 100% inspection of the deviated characteristics for a minimum of the next (3) three consecutive manufactured lots unless otherwise specified by Akaer.

Corrective actions shall be appropriate to the effects of the nonconformities encountered.

Supplier shall maintain documented information that defines the nonconformity and corrective action management processes.

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11 - ADDITIONAL PROVISIONS

If the goods are to be produced by Supplier in accordance with designs, drawings, blueprints, mylars, tooling, or fixtures furnished by Akaer, the Supplier shall return the same to Akaer at Akaer's request upon completion or cancellation of this Purchase Order.

Akaer furnished and/or owned property conditions shall be identified, maintained, and inspected regularly for suitability of use. Supplier shall notify Akaer immediately if the property is lost, stolen, or unfit for the use for any reason. Akaer makes no warranties of any nature with respect to any property or data it may furnish to Supplier hereunder. Supplier shall notify Akaer immediately of furnished property, which becomes lost, stolen, missing, destroyed, or damaged.

Property furnished by Akaer shall be used solely in the performance of work ordered by:

- a) Akaer, or
- b) The Government, if the Government has title or rights in the property.

Property shall be subject at all times to disposition as Akaer may direct. Supplier agrees to maintain inventory control of all such tooling and property and to furnish inventories thereof when required by Akaer.

Supplier shall notify Akaer prior to the destruction of any furnished materials, or equipment.

If Akaer has provided the raw material for this order, no material substitution is allowed unless authorized in writing by Akaer. The Supplier shall not return any furnished material without prior approval of Akaer.

11.1 Notice of Escapement

The Supplier shall notify Akaer, within 24 hours of discovery, of any Non-Conforming Product shipped (escapement) and/or any changes in Product or process definition. Records of Non-Conforming Product must be maintained and made available to the Akaer immediately upon request.

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In the event of an escapement, the Supplier shall send a “Notification of Escapement” in writing to Akaer and shall contain the following as a minimum:

- a) Supplier Name,
- b) Description of Non-Conformance;
- c) A list of all affected Part Numbers;
- d) The part number and traceability number which identifies the Non-Conforming
- e) Parts, if applicable;
- f) All affected Purchase Order Numbers;
- g) Packing Sheet Numbers;
- h) Quantities and Date Shipped;
- i) Information Regarding Quarantine of All Related Work-In-Process and/or;
- j) Finished Goods, and
- k) Any other information that is required.

11.2 Part Marking

When a part mark specification or direction is provided by the drawings, specifications, or Purchase Order, the following shall be applied below those part mark requirements.

- The manufacturing date;
- The supplier's name or cage code traceable to the supplier, and
- The number used by the supplier to provide traceability of their quality records. (e.g., serial number, lot number, control number).

When a part mark specification or direction is not provided by the drawings, specifications, or Purchase Order, the part mark shall be applied in accordance with MIL-STD-130 or equivalent, shall include the following:

- The part number specified on Purchase Order;

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- The manufacturing date;
- The Supplier's name or cage code traceable to the Supplier, and
- The number used by the Supplier to provide traceability of their quality records.

Traceable items that size and/ or application that do not allow the part number and serial number identification shall be individually packaged and identified by an appropriate label.

11.3 Sampling

The Supplier shall provide 100% inspection of Products delivered. Sampling may only be performed when authorized in writing by Akaer.

Note: Sampling plans need to be approved by Akaer.

11.4 Packaging and Delivery Documentation

- When a packaging specification or direction is not provided by the engineering drawings, specifications, or Purchase Order, the packaging shall be in accordance with Commercial: ASTM-D3951, Standard Practice for Commercial Packaging, or
- Military: MIL-STD-2073-1D, Standard Practice for Military Packaging.

Supplier shall provide a Packing Sheet for each separate shipment that includes as a minimum:

- Supplier's name and address,
- Akaer's Purchase Order number, change order number and applicable line item number,
- Part number and quantity,
- Applicable engineering drawing revision levels and engineering drawing changes (ADCN, EO, etc.) as stated on the Akaer's Purchase Order or subsequent Purchase Order revision.

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Foreign Suppliers shall additionally provide:

- Custom's Declaration Letter, and
- Declaration of Origin.

11.5 Digital Data

When the Akaer or Akaer's Customer provides an electronic engineering definition of the Product, the Supplier shall have a documented procedure for:

- a) verifying the integrity of the file transfer;
- b) a system for storing and maintaining the file;
- c) a system for the security (limited access) of the file;
- d) a system for change verification and notification;
- e) full traceability of all derivative data back to the original Akaer provided definition, and
- f) When models are provided by the Akaer along with other configuration control documents (engineering drawings, specifications, condition of supply, etc.), the Supplier is to ensure that all documents have been properly reviewed before production. This includes the evaluation of all embedded notes in the engineering model. Any conflict between these documents and files shall be brought to the attention of the Akaer for resolution.

For dimensions checked with a CMM the Supplier shall provide:

- a) an AS 9102 submittal with all dimensions specifically called out in the model listed in Form 3. (Example - GD & T, hard callout dimensions, drive to points, etc.);
- b) for all other measurements taken from the model but not specifically called out as in letter (a) above, include a bubbled drawing of dimensions taken from the model or bubbled screenshot showing where the points were taken. There must be a correlation between the bubbled features and the CMM report;

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- c) a CMM report that identifies the tolerance for each feature point and the amount of deviation from the nominal. The report must clearly indicate any out of tolerance conditions, and
- d) The CMM report shall be traceable to the specific part and retained by the Supplier. The CMM report shall be given a naming convention that can be identified on the AS9102 form 3. A copy of the CMM report shall accompany the FAI. If the size of the CMM report is not feasible to include a copy, it shall be retained in such a manner that can be made available immediately upon request.

For dimensions not checked with the CMM, the Supplier shall provide a bubbled drawing of dimensions taken from the model or bubbled screenshots (these must be controlled in the same manner as an engineering drawing) showing where the points were taken. These manually inspected features shall be recorded on form 3 of the AS 9102 form. There must be a correlation between the bubbled features and the Form 3 report.

Documents must reference the model file name/drawing and revision levels.

11.6 Certificate of Conformance

When the Akaer Certificate of Conformance (CoC) document form is not specified on the Akaer's Purchase Order, the Supplier shall use Supplier's Certificate of Conformance form if it contains the following as a minimum:

- Supplier's name and address;
- The part number and part name;
- Purchase Order number or Akaer's name;
- Quantity;
- All drawings, parts lists, sheet numbers, revision levels, and amendments, models;
- A certification statement to read as follows: "(Supplier) certifies that these parts were purchased, and/or manufactured, and/or processed, and/or

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assembled, and inspected and meets all applicable OEM customer and Akaer requirements”;

- An authorized Quality Assurance stamp (where applicable), signature, and date;
- The number used by the Supplier to provide traceability of their quality records. This should be the same number applied in the part mark;

Note: The following should be listed in the CoC or attached to the CoC in the form of certifications:

- Material type, alloy, temper, thickness or other size dimensions (s), lot number, manufacturer and specification number and revision level,
- Heat treat facility, lot number, process name, quench method, specification number, and revision level,
- Hardness and conductivity readings (required and actual) and percentages tested,
- All other special processes performed, by facilities, specification names, specification numbers, and revision levels,

For supplied raw material or materials used in the subsequent manufacture of parts, components or assemblies a copy of the original mill or manufacturer test reports shall be provided.

For any designated special processes or testing performed, a copy of the original processor or testing facility certificate containing the process performed and the actual test results stated shall be provided. A reference to the specification, standard, or method used to validate acceptance shall be stated, including the revision level for each identified document.

11.7 Inspection Delegation Authority

The Supplier, when issued an “Inspection Delegation Authority Memo” by Akaer Quality Assurance, is authorized to inspect products identified within the Purchase Order on behalf of Akaer Quality Assurance unless otherwise excluded.

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The Supplier's Delegation Authority is subject to the limitations as may be specified in the "Inspection Delegation Authority Memo", and/or as specified within the Purchase Order/Contract.

Akaer Quality Assurance reserves the right to conduct Product integrity audits, quality system assessments, verify Suppliers' conformance to delegation requirements and revoke the Supplier's delegation authority at any time.

11.8 Foreign Object Damage Control

The Supplier shall ensure that the Product delivered to Akaer is controlled in a manner that will prevent FOD from being introduced into the final product.

11.9 Customer & Program-Specific Requirements

In addition to the requirements contained herein, there are specific Customer and Program-related requirements that apply based on the type of Product being provided by the Supplier and the Akaer's end item Customer.

The Supplier is hereby required to implement the Customer and Program-specific requirements, as applicable.

12 - TERMS AND DEFINITIONS

12.1 List of Approved Suppliers (LFA)

The LFA is a List of Akaer's suppliers, with potential impact on Akaer's products and services. This list is composed of suppliers of materials and services classified as "Direct". At Akaer's discretion, suppliers of indirect materials and services may also go through the qualification, approval, and evaluation processes, with or without inclusion in the LFA.

12.2 Supplier Class

The supplier class indicates which types of supply the provider is associated with. The same provider can be approved in more than one class. Suppliers approved for direct

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material and service may provide indirect materials and services Five Supplier classes are established:

12.2.1 Direct Material

These are the materials that potentially impact the quality of the Akaer product or service and are part of its technical specification, either implicitly or explicitly. This group includes, among others: raw material, parts, parts, assemblies and subassemblies, tooling, ground support equipment (GSE), chemical materials used by the project, including inputs for non-destructive testing and surface protection.

Note: when computer equipment or software are incorporated into the final product/service, they must be considered as Direct Materials.

12.2.2 Direct Services

These are the services that potentially impact product quality. This group includes, among others: machining, assembly, special processes, non-destructive inspection, engineering or consulting services applied to the project/product, aeronautical maintenance services, maintenance and calibration services for measuring and testing equipment, services inspection and testing of products and prototypes.

12.2.3 Indirect Material

These are the materials that are used in the production process, with no potential impact on product quality, and are not part of its technical specification. This group includes, among others: computers, general-purpose hardware, and software, tools, parts for maintenance of machinery and equipment, supports, ladders, filters, individual and collective protection equipment.

12.2.4 Indirect Services

These are the services that are used to support the production process and product delivery, with no potential impact on product quality. This group includes, among others:

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logistics services, storage, support services for ICT activities, customs consultancy, transport, maintenance of machinery, and utilities.

12.2.5 Non-Productive Materials and Services

These are products and services intended to support business activities, not directly linked to Akaer's production process, product, or final service. This group includes office and cleaning material, furniture, graphic services, services, and materials to support people management activities, materials, and services for building maintenance.

12.3 Type of Supply

The typification of the service or material provided defines the requirements for the qualification of the supplier of direct materials and services, and the supplier may be approved for more than one type, provided that it is approved according to the requirements applicable to each type (see table 4.1).

Finished Product: Parts, pieces, sets, and sub-assemblies purchased under specification or drawing, not characterized as a commercial product (COTS). This type includes finished and semi-finished products in any material or media, non-standard electro/electronic materials, and software embedded in the product.

Chemical Product: chemical products in any packaging, quantity, or physical state. This type includes, among others: paints, sealants, liquid or pasty adhesives, degreasing agents, reagents, oxidants, and commodities for special processes, tests, and thermal treatments.

Tooling Product: this type includes tools in any material, used to transfer and/or guarantee the geometric conditions of the product during the manufacturing, assembly, and testing steps, among others.

Raw Material: metallic and non-metallic materials that will undergo a transformation during the production process, for the manufacture of parts, parts, and assemblies.

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Standardized Products: Products purchased under industry-recognized rules and standards (NAS, MIL, MAS, etc.), commonly known as electrical hardware and mechanical hardware.

Packaging: packaging produced under Akaer specification. Standardized packaging and supplies are considered indirect materials.

Machining/Assembly Service: execution of services using raw materials, parts, or inputs supplied by Akaer. Commonly known as subcontract or industrialization.

Services - Special Processes and Non-Destructive Tests: provision of electroplating, heat treatment, painting, surface protection, sandblasting, physical-chemical treatments, mechanical conformation, electro-erosion, engraving/identification of products, parts, and pieces, among others.

Services - Maintenance, Calibration, Inspection, and Testing: maintenance and calibration of measuring, inspection, and testing means; inspection, testing, and testing laboratories.

Services - Aeronautical Maintenance: aeronautical maintenance according to current regulations

Specialized Service / Consulting – provision of consulting services or specialized services not covered by the above situations, such as, for example, management system certification services and technical consulting.