



## SIKORSKY SUPPLIER QUALITY REQUIREMENTS

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TITLE

### Sikorsky Supplier Quality Requirements

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#### INTRODUCTION

This document defines Sikorsky supplier quality requirements.

The document applies to Original Equipment Manufacturer (OEM) suppliers and their subcontractors who furnish product, material, processes, or services (as a manufacturer or maintenance provider) to Sikorsky as a contract requirement regardless of supplier's industry, regulatory accreditation, or certification status.

Sikorsky reserves the right to flow down additional requirements to satisfy specific customer and / or business requirements that will apply only to Sikorsky.

Sikorsky has the right to disapprove a supplier's Quality System as well as the Quality System of their subcontractors.

This document employs, as a foundation, SAE Aerospace Standard (AS) 9100 - Quality Management Systems - Requirements for Aviation, Space and Defense Organizations and is supplemented by Sikorsky requirements as defined herein. In an effort to standardize the use and application of the common quality system requirements, the SAE AS 9100 paragraph numbering scheme has been used.

Sikorsky, its representatives, its customers and its customers' governmental agencies and regulatory agencies shall have the right of entry into a supplier's facility or that of their subcontractors. Entry shall provide for access to quality system documentation, quality records as well as the ability to conduct audits, verify product and processes.

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### QUALITY MANAGEMENT SYSTEMS - REQUIREMENTS

#### 1 SCOPE

1.1 General: No Additional Requirements

1.2 Application

Suppliers and all of their suppliers that provide Sikorsky product shall be compliant to all applicable Quality Management System and SSQR-01 requirements.

1.2.1 Suppliers who receive a purchase order (PO) from Sikorsky shall be certified by an accredited Certification Body (CB) to AS/EN/JISQ 9100.

1.2.2 Suppliers shall ensure that all of their suppliers are compliant to the requirements of AS/EN/JISQ 9100.

1.2.3 Distributors or organizations carrying out the purchase, storage, splitting and sale of products and not transforming, assembling, or otherwise modifying purchased product shall be certified by an accredited CB to AS/EN/JISQ 9100 or AS/EN/JISQ 9120.

1.2.4 Suppliers and all of their suppliers including offload suppliers that only provide special processes (not part manufacturing suppliers) that receive a PO from Sikorsky shall be certified to Nadcap AC7004 or AS/EN/JISQ 9100.

1.3 Supplier Certificate(s) of Registration to applicable Aerospace Quality Management System (AQMS) assessments shall be issued by a CB.

The CB shall be accredited under the control of the International Aerospace Quality Group (IAQG) certification/registration schemes, as recognized by SAE AS/EN/JAC9104/1. Reference the [IAQG website](#) for a listing of accredited CBs.

**Note:** Suppliers will need to register on the IAQG website and receive a password in order to view the list of accredited CBs.

1.4 Other Party Certificate(s) of Registration or Nadcap Accreditation

Certificates/documentation shall be submitted to Sikorsky if information has not been entered into the Online Aerospace Supplier Information Center (OASIS) or Nadcap databases.

1.5 Suppliers shall permit Sikorsky access to all data in OASIS and Nadcap databases including registration documentation, certification, audit reports, findings, corrective actions, etc. Sikorsky reserves the right to input significant and/or frequent escape data and major audit findings regarding suppliers into the relevant OASIS data base records for those Suppliers.

1.6 The supplier is responsible to provide Sikorsky Purchasing with written notification of any changes in the certification / registration / accreditation or major audit findings within (2) business days of receiving notification of the change or finding. Examples of changes in registration include new certification, suspension, or expiration.

1.7 Suppliers not certified by an accredited CB are subject to removal from any Qualified SupplierList. If Sikorsky elects to continue a business relationship with the supplier, the supplier is subject to QMS and / or Special Process audits by Sikorsky. Suppliers may be required to reimburse Sikorsky for the cost of conducting these audits until certification is achieved.

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**2 NORMATIVE REFERENCES**

- 2.1 The supplier shall comply with the latest revision of the SSQR and supporting documents, regardless of the revision level stated on the applicable PO or scheduling agreement. The supplier shall review the applicable Sikorsky Supplier Portal for the latest revisions every 60 days and these reviews shall be documented. All changes must be implemented within 60 days of notification from Sikorsky or upon review of Portal specifications unless otherwise specified.
- 2.2 Copies of Sikorsky specifications can be requested from Sikorsky through Purchasing. It is the responsibility of the supplier to ensure they are complying with the version of product definition specifications referenced in PO requirements.
- 2.3 It is the responsibility of the supplier to obtain copies of non- Sikorsky documents specified by this SSQR. These documents include, but may not be limited to, the following:

<b>Document</b>	<b>Available From</b>
<a href="#"><u>ISO STANDARDS</u></a>	Canadian Source
	Standards Council of Canada 270 Albert Street, Suite 200, Ottawa ON K1P 6N7, Canada
	United States Source
	American National Standards Institute 25 West 43rd Street New York, New York 10036
	European Source
	International Organization for Standardization Case Oistake 56 CH-1211 Geneve 20 Switzerland
	Asian Source
	The Society of Japanese Aerospace Companies (SJAC) Toshin Tameike Bldg.2nd Floor, 1-1-14 Akasaka, Minato-ku, Tokyo 107-0052 Japan
<a href="#"><u>SAE SPECIFICATIONS</u></a>	Society of Automotive Engineers
	400 Commonwealth Drive Warrendale, PA 15096-0001
<a href="#"><u>ANSI SPECIFICATIONS</u></a>	American Society for Quality
	611 East Wisconsin Avenue Milwaukee, WI 53201-3005
<a href="#"><u>AWS SPECIFICATIONS</u></a>	American Welding Society
	8669 NW 36 Street, # 130 Miami, Florida 33166-6672
<a href="#"><u>AEROSPACE INDUSTRIES ASSOCIATION</u></a>	Aerospace Industries Association of America, Inc.
	1000 Wilson Boulevard, Suite 1700 Arlington, VA 22209-3928

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**REQUIREMENTS REFERENCED IN THIS DOCUMENT**

<b>Document</b>	<b>Title</b>
AIA/NAS 410	National Aerospace Non-Destructive Test Project Group
ANSI/NCSL	Requirements for the Calibration of Measuring and Test Equipment
AWS D17.1	Specification for Fusion Welding for Aerospace Applications
IAQG SCMH	IAQG Supply Chain Management Handbook
ISO 10012	Quality Assurance Requirements for Measuring Equipment
ISO 17025	General Requirements for the Competence of Testing and Calibration Laboratories
PRI AC 7004	Nadcap Audit Criteria For Inspection and Test Quality System
QA-3-500	Production Part Approval Process (PPAP)
Quality Clause	Software-Deliverable & Non-Deliverable
SAE AS 13000	Problem Solving Requirements for Suppliers
SAE AS 5553	Fraudulent/Counterfeit Electronic Parts; Avoidance, Detection, Mitigation, and Disposition
SAE AS 6174	Counterfeit Materiel; Assuring Acquisition of Authentic and Conforming Materiel
SAE AS 9100	Quality Management Systems - Requirements for Aviation, Space and Defense Organizations
SAE AS 9102	Aerospace First Article Inspection Requirement
SAE AS 9104/1	Requirements for Aviation, Space, and Defense Quality Management System Certification Programs
SAE AS 9120	Quality Management Systems Requirements for Aviation, Space, and Defense Distributors
SS7777	Sikorsky Aircraft Material and Process Specification Index
SS8535	Corrosion Prevention During Manufacturing, Storage and Shipment
SS8741	Open and closed Bearings-Engineering Requirements for Depreservation, Cleaning and Handling of
SS9211	Flight Safety Parts Source Approval, Quality and Test Requirements
SSQR-15.1	Foreign Object Damage/Debris Prevention, Handling, Storage, Packaging, Preservation and Delivery
SSQR-20.1	Supplier Sampling Requirements

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**FORMS REFERENCED IN THIS DOCUMENT**

<b>Forms</b>	<b>Title</b>
QA-3-105 Form 1	PPAP (Production Part Approval Process) Approval
QA-3-107 Form 3	PPAP (Production Part Approval Process ) Change Notification
SA1876	PPAP (Production Part Approval Process ) Input Data Sheet
SA1919	Notification of Potential Escape (NOPE)
SA342-16	DRT NMRR Review Form
SA342-7	Nonconforming Material Rejection Report (NMRR) Purchasing/Accounting Supplement Form
SA5182	Supplier's Inspection Record of Reportable Characteristics
SA5195-2	Corrective Action Report (CAR)
SA6411	Designated Quality Representative (DQR) Candidate Form
SA6412	Letter of Agreement Authorized to Release Program
SA8492	Sikorsky Supplier Technical Help
SA8494	Sikorsky Request for Corrective Action (RCA)

**SUPPORTING DOCUMENT**

<b>Document</b>	<b>Title</b>
SSQR-01 Appendix A	Non-Conforming Material Procedure
SSQR-01 Appendix B	Gaging Methods & Geometric Dimensions and Tolerancing
SSQR-01 Appendix C	Sikorsky Designated Quality Representative (DQR) Operating Procedure
<b>SSQR-01 Appendix D</b>	<b>Supplier Subtier Management Quality Requirements</b>
SSQR-01 Appendix E	Supplier Process Certification Requirements
SSQR-01 Appendix F	Production Part Approval Process (PPAP)
SSQR-01 Main Text	SSQR-01 Supporting Documentation Main Text

**3 TERMS AND DEFINITIONS**

No Additional Requirements

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**4 QUALITY MANAGEMENT SYSTEM**

4.1 General Requirements: No Additional Requirements

4.2 Documentation Requirements:

4.2.1 General: No Additional Requirements

4.2.2 Quality Manual: No Additional Requirements

4.2.3 Control of Documents:

- a) No Additional Requirements
- b) Corrections to work instructions or documents shall be recorded, dated and traceable to the person making the change (e.g., signature, stamp, etc.) in ink or other permanent marking method with the original data being legible and retrievable after the change.
- c-d) No Additional Requirements
- e) All quality records (non-electronic) shall be documented in ink or other permanent marking.
- f-g) No Additional Requirements

4.2.4 Control of Records:

1) Electronic imaging/microfilming of records in lieu of storing actual inspection records is permissible. All records shall be retained, retrievable and readable on storage media capable of maintaining the data integrity for the full retention period.

Examples of Quality Records to be retained include, but are not limited to:

- Deliverable and non-deliverable software verification & validation
- First article inspection reports
- In process / final inspection & test records
- Training and certification records
- Manufacturing / fabrication records (e.g. planning sheets, routers, etc.)
- Nonconforming material disposition
- Procurement documents (supplier placed orders)
- Process control records (used as acceptance criteria)
- Radiographs, technique sheets and related acceptance reports
- Receiving inspection records (e.g. test reports, material certifications, etc.)

2) Retain Quality Management System (QMS) records as identified per AS9100. The following identified quality records shall be maintained for the minimum retention periods specified below:

<b>Time Period</b>	<b>Description</b>
40 years from time of manufacture	Flight safety, critical/major rotors, blades, transmission, flight control and airframe components (i.e. hubs, spindles, main rotor shafts) identified as Flight Safety Parts.
10 years	All other parts except off-the-shelf industry standard parts.
5 years	Off-the-shelf / industry standard parts (e.g. AN, AS, MS, JAN, etc.)

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3) Radiographs: The supplier shall retain radiographs as below:

Time Period	Description
40 years	The reports of inspection, detailed exposure data, and the radiographs shall conform to the requirements of ASTM E1742 and shall be kept on file for a period of 40 years (from date of inspection) for flight safety parts, in accordance with SS9211. The period of time for all other parts is 10 years. Serial numbers of parts processed to this specification shall be recorded on applicable inspection documents. All inspection information shall be subject to approval and made available to Sikorsky for review, if required.
10 years	Castings or parts where the purchase order, engineering drawing or specifications require serial number traceability. Castings or parts where the purchase order, engineering drawing or specifications do not require serial number traceability, shall be retained only if no other inspection record is retained that documents completion and final acceptance of radiographic inspection.

**5 MANAGEMENT RESPONSIBILITY**

- 5.1 Management Commitment: No Additional Requirements
- 5.2 Customer Focus: No Additional Requirements
- 5.3 Quality Policy: No Additional Requirements
- 5.4 Planning: No Additional Requirements
- 5.5 Responsibility, Authority and Communication: No Additional Requirements
- 5.6 Management Review: No Additional Requirements

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**6 RESOURCE MANAGEMENT**

6.1 Provision of Resources: No Additional Requirements

6.2 Human Resources

6.2.1 General: No Additional Requirements

6.2.2 Competence, Training and Awareness:

a) 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 require visual acuity.

- Intervals shall not exceed one year.
- Individuals shall be tested in at least one eye, either corrected or uncorrected.
- Color Perception testing is required one time only. Individuals shall be capable of adequately distinguishing and differentiating colors used in the method for which certification is required, the process being performed or inspection activity. Documentation shall be retained.
- Records shall be retained for each individual.

<b>Individual performing ...</b>	<b>Shall be compliant with ...</b>
Visual inspection (i.e. calibration, non-weld, in-process, layout, dimensional)	Near vision requirements of <ul style="list-style-type: none"> <li>• Snellen 14/18, (20/30), or</li> <li>• Jaeger 2</li> </ul>
Visual Inspections on Welds	American Welding Society Standard (AWS) D17.1
Nondestructive Testing (NDT)	Aerospace Industries Association National Aerospace Standard (AIA/NAS) 410
<b>Note:</b> Vision tests may be substituted for the options listed above providing the equivalence is verified and documented by a licensed optometrist or ophthalmologist.	

b-e) No Additional Requirements

6.3 Infrastructure: No Additional Requirements

6.4 Work Environment: No Additional Requirements

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### 7 PRODUCT REALIZATION

7.1 Planning of Product Realization: No Additional Requirements

7.1.1 Project Management : No Additional Requirements

7.1.2 Risk Management : No Additional Requirements

7.1.3 Configuration Management : No Additional Requirements

7.1.4 Control of Work Transfers:

Supplier shall notify any planned change implementation. The supplier shall have documented procedures for implementing this requirement, ensuring it is applied in its supply base and that decisions to interrupt flow of material from any existing source shall not take place until approved by Sikorsky.

**Note:** For guidelines on implementing a process for work transfers reference IAQG SCM.H.

7.2 Customer-Related Processes:

7.2.1 Determination of Requirements Related to the Product:

a-d) No Additional Requirements

7.2.2 Review of Requirements Related to the Product:

**Note:** For guidelines on implementing a process for contract review reference IAQG SCM.H.

The supplier shall have a documented Contract Review process that requires:

- Roles and responsibilities of cross-functional reviewers/stakeholders (e.g. Contracts/Legal, Engineering, Materials, Production, Quality, Sales, Procurement, Packaging, Shipping, etc.).
- Review and approval process.

a) Verbal agreements or instructions shall under no circumstances be construed as approval or authorization to proceed.

b-e) No Additional Requirements

7.2.3 Customer Communication:

a) Changes that may affect quality shall be documented and communicated in writing to the applicable Sikorsky Quality Assurance and/or Procurement Representative prior to implementation of the change. The following changes shall be documented accordingly and may require a full or partial FAI.

#### EXAMPLE OF CHANGES

- Ownership
- Company name change
- Management
- Manufacturing location (see para.7.1.4)
- Process (see 7.5.1.1)
- Product (see 7.5.1.1)
- Inspection Techniques (see 7.5.1.1)

b) Sikorsky Supplier Technical Help (SA8492 form) shall be used as the formal communication process.

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c) Suppliers may communicate technical questions to Sikorsky via the “Sikorsky Supplier Technical Help” form SA8492, available at [www.sikorsky.com](http://www.sikorsky.com) in the “Forms” section or the Sikorsky Portal Home Page “Supplier Tech Help” for online submittal to SAC. The SA8492 may be used for items such as:

- An anomaly noted in a drawing or specification that could result in a nonconformance
- Lack of clarity or definition in a drawing or specification
- A request for an alternate method to a quality system requirement and must receive approval

**Note:** SA8492’s are not used for processing nonconformances and cannot be utilized in place of a drawing change.

- Sikorsky will review SA8492’s and notify the supplier of required actions.
- Supplier suspends processing of product or proceeds at suppliers own risk until issue is resolved.

**Note:** Supplier cannot ship parts until a formal answer is received from Sikorsky.

**Note:** Reference to Supplier Technical Help may also be found in SSQR-01 Supporting Documentation Main Text.

d) For communication with Sikorsky, the supplier shall have the capability to communicate in English. The following documents shall be in English:

- QMS Manual
- First level QMS procedures
- Process documentation (including FAI documentation) as required by Sikorsky
- In cases where the supplier maintains copies in their native language as well as in English and there is a conflict, the English language document shall be governing as between supplier and Sikorsky.

7.3 Design and Development: No Additional Requirements

7.4 Purchasing:

7.4.1 Purchasing Process:

**Note:** For assistance in managing sub-tiers, consider the guidelines provided in IAQG SCM.H.

a-c) No Additional Requirements

d) When specified on the drawing or PO, suppliers shall use only sources approved by Sikorsky for a specified material and/or to perform special processes.

e-f) No Additional Requirements

7.4.2 Purchasing Information:

a-f) No Additional Requirements

g) Where Sikorsky 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 PO shall state that the articles are for applicable Sikorsky “end use” and shall be controlled per applicable PO requirements.

h-j) No Additional Requirements

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### 7.4.3 Verification of Purchased Product:

- 1) Suppliers shall provide Sikorsky with 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 PO.
- 2) Where the supplier utilizes test reports to verify purchased product, the data in those reports shall be acceptable per applicable specifications. The supplier shall periodically validate test reports for raw material. That validation shall be accomplished by the supplier or other independent party through periodic, scheduled tests of raw material samples. Schedules for frequency of tests will be established by the supplier based on historical performance of the raw material supplier. Test reports shall be checked 100% against the Sikorsky requirements and applicable specifications.
- 3) When Government oversight (e.g. Government Contract Quality Assurance (GCQA), Department of Energy, etc.) is invoked, the supplier shall notify the Government Representative servicing their facility or if none, the Government Inspection office nearest to their facility.
- 4) Suppliers shall prevent and mitigate the use of counterfeit parts. The requirements of SAE AS 5553 for electronic components and SAE AS 6174 for non-electronic product apply. Supplier must be compliant to the applicable Defense Federal Acquisition Regulation Supplement (DFARS) for government contracts (i.e., DFARS 252.246-7007).
- 5) Sikorsky's Supplier Self-Release Process is applicable to selected parts affected by both destination and source inspection. For parts designated for destination inspection, the program, referred to as Destination Product Audit (Para. 7.4.3.1), is available to all suppliers, which have successfully met the requirements for each part. For parts designated for source inspection, the program, referred to as, Authorization to Release (Para. 7.4.3.2), is limited to selected suppliers, which have successfully met all of the program requirements
- 6) Destination Product Audit – Supplier must meet all requirements outlined in “SAC Destination Product Audit Requirements” located in the Supplier Resource section – SSQR-01 Supporting Documentation Main Text / Section 2 - Destination Product Audit.
- 7) Authorization To Release – Supplier must meet all requirements outlined in “SAC Authorization to Release Requirements” located in the Supplier Resource section – SSQR-01 Supporting Documentation Main Text / Section 1 - Authorization to Release.

### 7.5 Production and Service Provision:

#### 7.5.1 Control of Production and Service Provision:

- a) 1) When the supplier provides Flight Safety Parts to Sikorsky, the supplier shall comply with the requirements of SS9211 unless otherwise specified by Sikorsky specific part definition. In addition to the requirements identified in SS9211 Flight Safety Parts Program, Sikorsky Aircraft (SAC) Flight Safety Parts Program (FSPP) suppliers must meet all the requirements outlined in SS9211, Flight

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Safety Parts Source Approval, Quality and Test Requirements, and the Flight Safety Frozen Planning Guide.

- 2) Process Certification: Suppliers shall comply with the requirements of SSQR-01 Appendix E- Supplier Process Certification Requirements.
- 3) Deliverable and Non-Deliverable Software: Suppliers shall comply with the requirements of Quality Clause Q6R.

b-e) No Additional Requirements

f) Product identified with Sikorsky acceptance symbols (stamps or other Sikorsky approved acceptance criteria) can only be shipped to Sikorsky or a Sikorsky approved destination.

g-k) No Additional Requirements

### 7.5.1.1 Production Process Verification:

- 1) A First Article Inspection (FAI) shall be accomplished for all Sikorsky product and performed in accordance with SAE AS 9102 and the additional requirements below:
  - A full or partial FAI shall be performed for affected characteristics unless otherwise specified by Sikorsky when any of the following occurs:
    - Change in design
    - Change in manufacturing source(s), process(es), inspection method(s), location(s) of manufacture, tooling or materials.
    - Change in numerical control program or translation to another media.
    - Natural or man-made event, which may adversely affect a manufacturing process.
    - Lapse in production for two years or as specified by the customer.
  - A replication of product part marking (via photograph or sample) that represents production marking shall be included within the FAI Report.
  - The supplier holding the Sikorsky PO is responsible for assuring completion of the FAI Report for all finished part characteristics generated by sub-tier suppliers.
  - At any time, Sikorsky may request a complete FAI to be performed in lieu of a partial (delta) FAI.
  - Additional requirements for AS 9102 FAI Form 1:
    - **Field 11, Supplier Code:** Record Sikorsky assigned Supplier Code.
    - **Field 12, P.O. Number:** Record Sikorsky Purchase Order Number.
  - Additional requirements for AS 9102 FAI Form 3:
    - **Field 14, for each characteristic:** Record FAI Inspection Measuring Equipment used as a media of inspection. Record FAI inspector identification (e.g. signature, stamp, electronic authorization, etc.) used to signify the person that accomplished the inspection.
- 2) Production Part Approval Process (PPAP) -  
Suppliers shall implement the Production Part Approval Process per the requirements contained in QA-3-500 when invoked by drawing related documents, purchase order, or any other contractual requirement.

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- 3) When specified by the Sikorsky, the supplier shall utilize Sikorsky's on line system to capture production process verification data and analysis.

7.5.1.2 Control of Production Process Changes: No Additional Requirements

7.5.1.3 Control of Production Software:

Suppliers shall comply with the requirements of Quality Clause Q6R, Deliverable and Non-Deliverable Software.

7.5.1.4 Post-Delivery Support: No Additional Requirements

7.5.2 Validation of Processes for Production and Service Provision:

- a) Accreditation by either Nadcap or by signatories to the International Laboratory Accreditation Cooperation (ILAC) is required for materials testing laboratories. Suppliers and all of their supply chain shall use Sikorsky approved suppliers when a specific material or manufacturing special process is identified by Sikorsky; Reference SS7777 (Material and Process Specifications Index) and ASL (Approved source List for Special Processes and Laboratories). Suppliers and all of their supply chain that only provide special processes (not part manufacturing suppliers) shall be Nadcap accredited for the following special processes:

- Chemical Processing
- Coatings
- Heat Treating
- Materials Testing
- Nondestructive Testing
- Shot Peening
- Welding

Nadcap or ILAC requirements may be further defined by Sikorsky.

b-e) No Additional Requirements

7.5.3 Identification and Traceability: No Additional Requirements

7.5.4 Customer Property:

Suppliers shall return all documents, records, gaging, stamps, or other customer supplied product upon written notification from Sikorsky or when business with Sikorsky has permanently ceased.

7.5.5 Preservation of Product:

- Suppliers shall comply with the requirements of SSQR-15.1 for Foreign Object Damage/Debris Prevention, Handling, Storage, Packaging, Preservation and Delivery.
- Raw materials shall be protected against corrosion during manufacturing, storage and shipment. Magnesium alloys, carbon steels, low alloy steels and bare 400 series stainless steels shall be protected in accordance with SS8535- Corrosion Prevention During Manufacturing, Storage and Shipment.
- Anti-friction bearings with Sikorsky part numbers, except those with seals or shields, will be preserved per SS8741- Open and Closed Bearings-Engineering Requirements for Depreservation, Cleaning and Handling of.

7.6 Control of Monitoring and Measuring Equipment:

Calibration Systems shall meet the applicable requirements of ISO 10012, ISO 17025 or ANSI/NCSL Z540.3.

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If ANSI/NCSS Z540.3 is applicable, the Handbook shall be used as the interpretive guide.

- a) In accordance with the industry standards and guidance referenced above, stated reliability goals, accuracy ratios and Significant-Out-Of-Tolerance condition criteria shall be established.
  - 1) The Calibration interval analysis methodology used to maintain the reliability of Measuring and Test Equipment (M&TE) shall have a stated reliability goal to meet a minimum 95% reliability target for M&TE in-tolerance at the end of their interval schedule.
  - 2) 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 impact on quality and notification to the Sikorsky if product received by the Sikorsky has been affected.
- b-e) No Additional Requirements

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### 8 MEASUREMENT, ANALYSIS and IMPROVEMENT

8.1 General: No Additional Requirements

8.2 Monitoring and Measurement:

8.2.1 Customer Satisfaction: No Additional Requirements

8.2.2 Internal Audit:

Audits of SSQR-01 and supporting appendices shall be conducted annually and the appropriate documents and paragraphs should be made available for Sikorsky's review.

a-b) No Additional Requirements

8.2.3 Monitoring and Measurement of Processes: No Additional Requirements

8.2.4 Monitoring and Measurement of Product:

a-d) No Additional Requirements

1. Statistical Techniques: Suppliers shall comply with the requirements of SSQR-20.1.
  2. The use of an operator certification program or other special manufacturing methodologies (e.g. manufacturing controlling features, die/mold control, method of manufacturing, etc.) shall be approved by Sikorsky as applicable.
  3. Suppliers shall have a process in place that ensures monitor and measurement equipment selected for use in the verification of product is appropriate and effective for the application. The supplier should select M&TE with an accuracy ratio of 10 to 1 (product tolerance to M&TE tolerance) however accuracy ratios as low as 4 to 1 are acceptable unless otherwise specified. Use of M&TE with accuracy ratios less than 4 to 1 are not permitted unless a detailed measurement uncertainty analysis in accordance with ANSI/NCSS Z540.3 indicates an uncertainty ratio of 1.5 to 1 or better, and the measurement process is maintained under statistical quality control.
  4. 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".
- Supplier must meet all requirements outlined in "SAC Product Inspection Requirements" located in the Supplier Resource section – SSQR-01 Main Text / Section 5, Product Inspection
  - Reduced Dimension Inspection Requirements - A Sikorsky supplier wishing to utilize CMM programming to inspect parts to Sikorsky 3D drawings must comply to ALL of the requirements outlined in "Reduced Dimension Inspection Requirements" located in the Supplier Resource section – SSQR-01 Main Text / Section 7, Reduced Dimension Inspection Requirements.
  - The supplier will have an inspection system that:

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- Provides 100% inspection unless otherwise authorized by contract.
- Conducts functional performance tests in accordance with Acceptance Test Procedures approved by Sikorsky Engineering.
- Provides the "Certificate of Compliance" when required by PO or when requested by Sikorsky Supplier Quality.
- Provides the SA5182-Supplier's Inspection Record of Reportable Characteristics form when reportable characteristics are inspected.
- Provides for In-Process Controls, First Article Inspection and Inspection Status.

### 8.3 Control of Nonconforming Product:

Supplier must meet all requirements outlined in "SAC Control of Nonconforming Product" located in the Supplier Resource section – SSQR-01 Appendix A, Nonconforming Material Procedure.

- a) No Additional Requirements
- b) Suppliers shall coordinate all reports of nonconformances for Sikorsky supplied material in accordance with the applicable Sikorsky requirements.
- c) Articles deemed scrap shall be clearly identified and physically rendered unusable within 30 days of final disposition unless otherwise instructed, in writing, by Sikorsky.
- d) Sikorsky shall be informed immediately (not to exceed 24 hours or the next business day) of suspect nonconforming product shipped regardless of destination. Method of notification is determined per applicable Sikorsky requirements.
- e) Ensure that related characteristics which may be affected by rework or repair operations are identified and reinspected after these operations are performed.

### 8.4 Analysis of Data: No Additional Requirements

### 8.5 Improvement:

#### 8.5.1 Continual Improvement: No Additional Requirements

#### 8.5.2 Corrective Action:

For all Discrepancy Reports (Nonconforming Material Rejection Reports - NMRRs), the supplier will complete the SA342-16-DRT NMRR Review form and provide the following:

- The root cause of the nonconformance
- The corrective actions to be taken to prevent recurrence
- The planned effectivity of the corrective actions
- Attach all objective evidences including digital pictures

When required by the Sikorsky, the supplier shall:

- Submit Root Cause Corrective Action (RCCA) on applicable form identified by the supplier to document and validate effective root cause, corrective and preventive actions.
- Apply and conform to AS 13000 Problem Solving Requirements for Suppliers.

#### a-c) No Additional Requirements

- d) When required to provide corrective action, supplier shall prepare a report documenting the occurrence, findings, and assessment of the affected product and submit to Sikorsky. Provide objective evidence of root cause analysis and implementation of corrective and preventive action that eliminates risk of reoccurrence.

#### e) No Additional Requirements

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- f) To ensure 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 Sikorsky. In the case of a dimensional escape or dimensional disclosure, Sikorsky reserves the right to assign a Temporary Key Characteristic (TKC) subject to Key Characteristic (KC) requirements specified in SSQR-01 Appendix E.

(g-i) No Additional Requirements

### 8.5.2.1 Material Rejected at Sikorsky Aircraft

The supplier will respond to any Sikorsky Aircraft Request for Corrective Action (RCA), Sikorsky Form SA8494, within the following periods:

Three days of issue date for DRs (NMRRs) marked MRB in the Preliminary Review Disposition Block

30 days of issue date for DRs (NMRRs) marked D/S (Direct Scrap), S/R (Standard Repair), RTV (Return to Vendor), or Rwk. (Rework) in the "Preliminary Review Disposition" Block.

### 8.5.2.2 Material Rejected at the Supplier by Sikorsky Supplier Quality

The supplier will respond to any Sikorsky Aircraft Request for Corrective Action (RCA), Sikorsky Form SA5195-2 – Corrective Action Report (CAR). The supplier will provide objective evidence (e.g., revisions to work instructions, etc.) of all corrective actions implemented and verification that the plans are effective.

### 8.5.2.3 Reassignment of Responsibility

The supplier may request reassignment of responsibility for a Sikorsky-generated DRs (NMRRs) by submitting an SA 342-7 NMRR Supplement in accordance with SSQR Supporting Documentation / Appendix A, Nonconforming Material Procedure. The NMRR Supplement will contain the rationale for the change and be submitted with:

- A copy of the original DRs (NMRRs)
- Evidence (e.g., test or inspection data, copies of Tech-Help documents, digital pictures, etc.) supporting the rationale

Note: Supplier must submit ALL items no later than six (6) months from the date of the rejection report

### 8.5.3 Preventive Action: No Additional Requirements

**\*\*\* End of Document \*\*\***

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