H&W-ASQR-0001

Onboard Systems Hoist & Winch Aerospace Supplier Quality Requirements

CORPORATE OVERVIEW

Onboard Systems Hoist & Winch is a pioneer in the design, production, and support of innovative solutions for our customers in aerospace and defense. Working together, our global team shares a vision to create the most trusted source of aviation and high-integrity solutions, applying insight and foresight to help our customers succeed.

INTRODUCTION

Onboard Systems Hoist & Winch values the strategic relationship we have with our suppliers. We recognize our suppliers have a key role in maximizing our customer's satisfaction. We are committed along with you to bring significant value to our customers, and we welcome your input in making the materials and services you provide even better.

PURPOSE

Onboard Systems Hoist & Winch understands that Quality Management System types can vary among suppliers. The purpose of this document is to provide clear expectations to our suppliers that are in addition to what is normally required in an industry standard Quality Management System and to state additional business requirements.

1 GENERAL REQUIREMENTS

1.0 PURPOSE/SCOPE

1.1 The requirements of this document apply to all Suppliers that furnish product, material, processes, or product related services to Onboard Systems Hoist & Winch regardless of Supplier's industry, regulatory accreditation, or certification status. Supplier shall be responsible for ensuring that all members of their supply chains comply with the applicable requirements set forth herein.

1.2 Suppliers shall consult Appendix 1 to determine which provisions of this document apply based on the products and services provided by Supplier and that of any member of their supply chain.

1.3 When this document is referenced in Onboard Systems Hoist & Winch purchase order requirements or other supplier agreements, suppliers and their sub tier suppliers are responsible for compliance to all applicable requirements.

2.0 ROLES AND RESPONSIBILITIES

2.1 Suppliers shall comply with the latest revisions of this procedure and Onboard Systems Hoist & Winch requirements.

2.2 Onboard Systems verification activities performed at any level of the supply chain does not absolve the organization of its responsibility to provide acceptable processes, products, and services and to comply with all industry requirements.

2.3 When requirements within this document are not directly applicable to Distributors, but still applicable to the product being supplied, the Distributor is responsible to flow down these requirements down to their suppliers and ensure oversight and compliance.

3.0 REFERENCES

DOCUMENT NUMBER	DOCUMENT TITLE
AC7004	Nadcap Audit Criteria for Aerospace Quality Systems
AC7006	Nadcap Audit Criteria for Accreditation to ISO/IEC 17025
AS13001	Delegated Product Release Verification Training Requirements
AS5553	Counterfeit Electrical, Electronic, and Electromechanical (EEE) Parts, Avoidance, Detection, Mitigation, and Disposition
AS6174	Counterfeit Material; Assuring Acquisition of Authentic and Conforming Material
AS/EN/JISQ 9100	Quality Management Systems - Requirements for Aviation, Space, and Defense Organizations
AS/EN/JISQ 9120	Quality Management Systems – Requirements for Aviation, Space, and Defense Distributors
AS9102	Aerospace First Article Inspection Requirement

DOCUMENT NUMBER	DOCUMENT TITLE
AS9103	Verification Management of Key Characteristics
AS 9138	Quality Management Systems Statistical Product Acceptance Requirements
AS9145	Requirements for Advanced Product Quality Planning and Production Part Approval Process
AS9146	Foreign Object Damage (FOD) Prevention Program – Requirements for Aviation, Space, and Defense Organizations
H&W-ASQR-0001	Onboard Systems Hoist & Winch Aerospace Supplier Quality System Requirements
H&W-ASQR-FRM-0002	Supplier Process Change Notification
H&W-ASQR-FRM-0003	Supplier Request for Information (SRI)
H&W-ASQR-FRM-0004	Supplier Work Transfer Request
H&W-ASQR-FRM-0005	Supplier Compliance Matrix
H&W-ASQR-FRM-0006	Supplier Notification of Potential Quality Escape (NOPQE)
DFARS 252.246-7007	Contractor Counterfeit Electronic Part Detection and Avoidance System
DFARS 252.246-7008	Sources of Electronic Parts
EASA Form 1 Tags	EASA Part 21, Appendix 1, EASA Form 1 Authorized Release Certificate
FAA Form 8130-3 Tags	FAA Order 8130.21 – Procedure for completion of use of the Authorized Release Certificate, FAA Form 8130-3, Airworthiness Approval Tag
IATF16949	Automotive Quality Management System
ISO 10012	Measurement Management Systems - Requirements for Measurement Processes and Measuring Equipment
ISO 17025	General requirements for the competence of testing and calibration laboratories
ISO 9001	Quality Management Systems - Requirements

4.0 DEFINITIONS/ACRONYMS

TERM	DEFINITION
Acceptance Authority Media (AAM)	The means defined by the organization to document the status of outputs with respect to but not limited to conformity, configuration, monitoring and measurement requirements, and identification throughout the product life cycle.
Advanced Product Quality Planning (APQP)	A structured process aimed at ensuring quality and reliability with new products and processes.
Authorized Distributor	A distributor with a contractual arrangement with, or the express written authority of, the Original Manufacture or current design activity to buy, stock, repackage, sell, or distribute a product.
Bill of Material (BOM)	A list of raw materials, components, and instructions required to construct, manufacture, or repair a product or service.
BTP	Built to Print
Certification of Analysis (CoA)	A document attesting those specific goods have undergone specified testing with specified results.
Certification of Conformance / Certification of Compliance (CoC)	A document supplied by the manufacturer that specifies that the materials supplied to the customer meet the requirements specified.
Civil Aviation Administration of China (CAAC)	The Chinese civil aviation authority under the Ministry of Transport.
Commercial and Government Entity Code (CAGE)	A unique identifier assigned to a supplier to various government or defense agencies.
Commercial off the Shelf (COTS)	Commercially available items or products, defined by industry recognized specifications and standards, sold through public catalog listings.
Defense Federal Acquisition Regulation Supplement (DFARS)	DFARS contains requirements of law, Department of Defense wide policies, delegations of Federal Acquisition Regulation (FAR) authorities, deviations from FAR requirements, and policies/procedures that have a significant effect on the public.
Deliverable Software	Software delivered to an external customer or supplier. This may be airborne, ground based, manufacturing, test and support software that may be embedded with hardware.
Design Responsible Supplier	Supplier of products defined by a design/drawing proprietary to that supplier and linked to a customer part number using a customer-referenced drawing and/or other PO requirements (e.g., Category 1, Source Control, Source Design, Engineered Item).

TERM	DEFINITION
Distributor	Organization carrying out the purchase, storage, splitting, and sale of products and not transforming, assembling, or otherwise modifying purchased product. Distributors are limited to raw material, industry standard, and Commercial-Off-The-Shelf (COTS) parts. This does not include suppliers that purchase parts from third parties manufactured against Onboard Systems H&W proprietary drawings.
European Union Aviation Safety Agency (EASA)	An agency of the European Union with responsibility for civil aviation safety. It carries out certification, regulation and standardization and performs investigation and monitoring.
Federal Aviation Administration (FAA)	The division of the Department of Transportation that inspects and rates civilian aircraft and pilots, enforces the rules of air safety, and installs and maintains air-navigation and traffic-control facilities.
First Article Inspection (FAI)	A planned, complete, independent, and documented inspection and verification process to ensure that prescribed production processes have produced an item conforming to engineering drawings, planning, PO, engineering specifications, and/or other applicable design documentation.
Foreign Object Damage (FOD)	Any damage attributed to a foreign object that can be expressed in physical or economic terms which may or may not degrade the product's required safety and/or performance characteristics.
Government-Industry Data Exchange Program (GIDEP)	A cooperative activity between government and industry participants seeking to reduce or eliminate expenditures of resources by sharing technical information essential during research, design, development, production, and other operational phases of the life cycle of systems, facilities, and equipment.
Independent Distributor (i.e., Broker)	An organization that purchases excess inventories from end users with the intention to sell and redistribute into the market that do not have limiting contractual agreements or obligations with the Original Component Manufacturer (OCM).
International Aerospace Quality Group (IAQG)	An international non-profit association that sets the standards for quality within the worldwide supply chain of the aerospace industry.
International Laboratory Accreditation Corporation (ILAC)	Corporation for facilitating trade by promoting the acceptance of accredited test and calibration results.
Key Characteristic (KC)	An attribute or feature whose variation has a significant influence on product fit, performance, service life, or producibility as determined by Onboard Systems H&W; that requires specific action for the purpose of controlling variation.
LTA	Long Term Agreement
Machine Capability Study	An evaluation that represents the internal production capabilities and characteristics of the machine (e.g., cycle time, tooling, voltage, current, etc.).
Manufacturing Process Review (MPR)	Review of the manufacturing plans and processes against the design data to ensure that the final product will repeatedly meet customer requirements.

TERM	DEFINITION
Material Review Board (MRB)	A group of representatives who review and evaluate nonconforming material.
Measurement System Analysis (MSA)	A study of the effects of selected elements of a measurement process (e.g., people, machines, tools, methods, materials, environment) on accuracy, precision, and uncertainty of measurement.
Non-Deliverable Software	Software that facilitates the design, development, manufacture, inspection, test, acceptance, or calibration of a deliverable product, and is not generally delivered under a contract.
Non-Destructive Testing (NDT)	The process of inspecting, testing, or evaluating materials, components or assemblies for discontinuities, or differences in characteristics without destroying the serviceability of the part or system.
Online Aerospace Supplier Information System (OASIS)	This online resource contains a list of suppliers who are certified / registered under the IAQG rules to comply the aerospace quality management system requirements (9100 series).
Operator Certification	A method whereby an Operator, with the required training, has the capability to determine the acceptability or non-acceptability of parts they produce and/or inspect.
Original Component Manufacture (OCM)	An entity that designs and/or engineers a part and is entitled to any intellectual property rights to that part.
Original Equipment Manufacturer (OEM)	A company with design authority that sells products manufactured and assembled under the company's brand name.
PO	Purchase Order
Product	Any part, service, or material that is, or is intended by its manufacturer to be a part of or used in production.
Product Key Characteristic	An attribute or feature selected by measurable geometrical, material properties, functional, and/or cosmetic features of a product as defined by Onboard Systems H&W, whose variation control is necessary in meeting customer requirements, enhancing customer satisfaction, or requires specific actions for the purpose of controlling variation.
Production Part Approval Process (PPAP)	A process for supplier that demonstrate that their production processes: (1) all customer engineering design records and specification requirements and (2) produces product consistently meeting these requirements during an actual production run at the quoted production rate.
Quality Control Requirements (QCR)	Describes the general and special product assurance requirements that are in addition to the requirements in H&W-ASQR-0001.

TERM	DEFINITION
Quality Management System (QMS)	A formalized system that documents processes, procedures, and responsibilities for achieving quality policies and objectives.
Quality Notification (QN)	A process used to document a non-conformance.
Raw Material	Crude or processed material that can be converted by manufacture, processing, or combination.
Record	Establishes and provide objective evidence of conformity to requirements and activities performed.
Repair	Action on a nonconforming product to make it acceptable for the intended use to include actions taken on a previously conforming product to restore it for use.
Rework	Action on a nonconforming product or service to make it conform to the requirements (e.g., drawing, specification, etc.).
Safety Data Sheets (SDS)	Includes information such as the properties of each chemical; their physical, heath, and environmental hazards; protective measures; and safety precautions for handling, storing, and transporting the chemical.
Shall	Indicates a requirement.
Shelf Life	The length of time during which an item of supply, subject to deterioration or having a limited time which cannot be renewed, is considered serviceable while stored.
Should	Indicates a recommendation.
Software Bill of Materials (SBOM)	A complete, formally structured list of components, libraries, and modules that are required to build (e.g., compile and link) a given piece of software and the supply chain relationships between them.
Special Process (SP)	Those processes which modify or change the inherent physical, chemical, electrical, or metallurgical properties of an item, or non-conventional methods which remove or deposit material on an item during or after fabrication which cannot be fully evaluated by nondestructive means or those used to maintain process control such as nondestructive testing. These processes may require a demonstration of operator or equipment capability or proficiency and require special controls for monitoring per specification.
Statistical First Article Inspection (i.e., Process Capability Study) (sFAI)	A method to accelerate the detection of incapable processes by completing a dimensional inspection analysis of variable measurements for a 25-piece sample.
Supplier	Organization that provides and furnishes product or services to Onboard Systems H&W or another sub tier supplier.
Unique Entity Identifier (UEI)	An official identifier for doing business with the U.S. Government.

TERM	DEFINITION
Variable data	Quantitative measurements taken on a continuous scale (e.g., the diameter of a cylinder, the gap between mating parts).
VVR	Vendor Variation Request - nonconforming material is found and cannot be reworked.
(X-Ray Fluorescence) XRF	A non-destructive analytical technique used to determine the elemental composition of materials.

5.0 QUALITY MANAGEMENT SYSTEM (QMS) REQUIREMENTS

5.1 QMS Certification Requirements

5.1.1 The Supplier receiving a purchase order (PO) from Onboard Systems shall be certified as defined in Table 5-1: QMS Certification (refer to Appendix 1 for supplier type).

Table 5-1: QMS Certification

Supplier Type – Refer to Appendix 1	QMS Certification Required
Type 1: Build to Print (BTP) – Onboard Systems H&W Member Design Part Manufacturer	AS/EN/JISQ 9100 Certification
Type 2: Design Responsible Supplier – Build to Spec	AS/EN/JISQ 9100 Certification
Type 3: Distributor (Raw material and COTS)	ISO 9001 or AS/EN/JISQ 9100 or AS/EN/JISQ 9120 Certification or IATF 16949 or Approved by Exception
Type 4: Special Process Suppliers	AS/EN/JISQ 9100 Certification or Nadcap AC7004
Type 5: Calibration or Laboratory Service Provider	ISO 10012 or ISO/IEC 17025 or Nadcap AC7006
Type 6: Industry Standard Part or Industry Standard Raw Material Manufacturer	ISO 9001 or AS/EN/JISQ 9100 or IATF 16949

Note: For suppliers of products which are exclusively used in non-military, non-aerospace applications (i.e., materials, parts and assemblies which are not part of a defense contract and are not intended for, nor will be used in the air space), QMS certification to ISO 9001 is sufficient for Supplier Type certifications that otherwise require AS/EN/JISQ9100 in accordance with the table above.

5.1.2 A supplier providing deliverable software shall conform to AS9115, and the process shall include:

- Risk Management Program
- Software Bill of Materials (SBOM) in an Industry Standard Format

5.1.3 For non-deliverable software used in manufacturing, inspection, test acceptance or calibration, that has a direct effect on the deliverable product, the supplier's process shall define (if applicable):

- Types of software to be controlled.
- How requirements are initiated, documented, approved.
- CMM correlation study
- Naming Conventions and version controls
- Storage of master copies.
- Risk Management Program

5.1.4 Calibration services being performed by the original equipment manufacturer (OEM) shall be compliant to ISO17025.

5.1.5 Materials Testing Laboratories shall be certified by an industry accredited body by either Nadcap or by signatories to the International Laboratory Accreditation Cooperation (ILAC).

5.1.6 All Distributors within the supply chain shall be certified by an industry accredited body to AS/EN/JISQ 9100, AS/EN/JISQ 9120, ISO 9001, or IATF16949.

5.1.7 Notification of QMS status changes.

5.1.7.1 If the supplier's QMS is not compliant to the applicable requirements, or if its QMS certification is revoked, suspended, changed, or will expire during the performance of the order, the supplier shall notify Onboard Systems in writing within (2) business days. All affected part numbers shall be listed in the notification.

For renewals, the supplier shall provide a copy of their QMS certification to Onboard Systems in one of the following ways:

- Email the Buyer and/or Supplier Quality Engineer
- Ensure OASIS database is updated with current copy of certification within (30) days of receipt.

5.2 Order of Precedence

5.2.1 If requirements conflict, the supplier shall contact Onboard Systems H&W for clarification using H&W-ASQR-FRM-0003 or equivalent. The order of precedence for documents is as follows:

1. Contract (e.g., PO, Long Term Agreement (LTA)
2. Drawing Referenced on PO
3. Onboard Systems H&W Specifications Referenced on Drawing
4. Industry Specifications Referenced on Drawing

5.3 Compliance

5.3.1 The supplier shall establish compliance to this document within 60 days of the document effective date, unless contractually obligated otherwise, or unless otherwise specified in the Buyer publication notification.

5.3.2 Requests for waivers, exclusions, or alternative methods to comply with these requirements shall be submitted to Onboard Systems for approval. In addition, the supplier shall maintain a copy of any approved exceptions and make available for review by Onboard Systems Quality Assurance or other personnel upon request.

5.4 Flow Down Requirements

5.4.1 Suppliers shall flow down all applicable design documentation requirements (e.g., drawings, specifications, models, QCRs, acceptance documents, test plans, descriptions, etc.), and all applicable requirements within this document to their suppliers. The supplier is responsible for ensuring compliance to all applicable requirements throughout their supply chain.

For items where Onboard Systems H&W is the design authority, the supplier shall indicate that Onboard Systems H&W is the Customer and has design authority within the text of the purchase order to, or contract with, their suppliers.

5.5 Supplier Communication with Onboard Systems H&W

5.5.1 Suppliers shall communicate with Onboard Systems H&W is to email your Buyer and or Supplier Quality Engineer.

5.5.2 Deviation from the Quality requirements are not permitted unless specifically authorized in writing by Onboard Systems H&W Supplier Quality Management (e.g., PO, purchase order supplements/amendments, Onboard Systems H&W forms listed in Table 5-5).

5.5.3 Verbal agreement and instructions shall not be construed as Onboard Systems H&W approval or authorization.

Table 5-5: Supplier Communication Forms

FORM	TITLE	USED FOR	SUBMISSION METHOD
H&W-ASQR-FRM-0002	Process Change Notification	• Notification of and request for approval of changes that may affect product quality and/or product design characteristics. • Notification of any potential, known, or planned obsolescence.	All Supplier Communication shall be submitted via applicable flow-down requirements.
H&W-ASQR-FRM-0003	Supplier Request for Information (SRI)	• Requesting clarification, interpretation, or communication of identified errors for drawings specifications, requirements. • Requesting authorization for deviations/exclusions to quality requirements. • Requesting approval before altering/repairing customer property. • Requesting approval to use material/hardware with broken traceability or from an unauthorized source. • Requesting approval to use an alternate inspection plan.	
H&W-ASQR-FRM-0004	Work Transitions	• Requesting approval of planned work transfers (e.g., make to make, make to buy, buy to buy, and buy to make).	
H&W-ASQR-FRM-0006	Notice of Potential Quality Escape (NOPQE)	• Communicating discovery of suspect and validated nonconforming product having been shipped regardless of destination and time frame.	

Note: the above forms can be found at the following location: https://hoist-winch.onboardsystems.com/suppliers/

5.5.4 For communication with Onboard Systems H&W, Supplier shall have the capability to communicate in English including the following documents unless otherwise approved by Onboard Systems H&W:

- Quality manual
- Process documentation requiring Onboard Systems H&W review or approval.
- All formal communication, Onboard Systems H&W specific Forms, First Article Inspection (FAIs), APQP documents, etc.).

5.5.2 In cases where Supplier maintains copies in their native language as well as in English, and there is a conflict, the English language document shall take precedence.

5.6 Employee Awareness

5.6.1 The supplier shall ensure that all personnel working for, or on behalf of the supplier, in activities relevant to the realization of product or services provided to, or for Onboard Systems H&W, are aware of:

- Their contribution to product or service conformity
- Their contribution to product safety
- The importance of ethical behavior

5.7 Quality Alerts

5.7.1 Quality Alerts are used to communicate pertinent quality related issues or other approved information to suppliers and/or processors. Actions defined within an alert are in alignment with Onboard Systems H&W flow down requirements and will typically include an implementation date. Suppliers shall perform the following upon receipt of alerts:

- Provide containment of suspect non-conformant parts.
- Review the actions listed in the alert.
- Determine any further impact of the alert (if any).
- Take necessary actions to ensure compliance to requirements.
- Notify Onboard Systems H&W using H&W-ASQR-FRM-0003 or equivalent if unable to comply with alert.
- Respond as outlined in the alert.

5.8 Government Industry Data Exchange Program (GIDEP)

5.8.1 Suppliers within the United States and Canada conducting business with the government or supporting the government's acquisitions of systems, facilities, or material, suppliers shall participate in Government Industry Data Exchange Program ("GIDEP") if directed through PO flow down.

5.8.2 Suppliers delivering directly or indirectly to Onboard Systems H&W in the United States or Canada shall action GIDEP alerts covering the product per the requirements within the Alert correspondence, and Onboard Systems H&W shall be informed of status whether they come through Onboard Systems H&W or through a supplier's supply chain. Onboard Systems H&W supply chain members shall be a GIDEP member and ensure alerts are actively monitored, issued, and addressed. Refer to www.gidep.org for more information.

5.8.3 The supplier shall notify Onboard Systems H&W using H&W-ASQR-FRM-0006 or equivalent for any product impacted by GIDEP alerts and shipped to Onboard Systems H&W.

5.9 Right of Access

5.9.1 Onboard Systems H&W, its representatives, its customers and its customer's governmental agencies and regulatory agencies shall have the right of entry into a supplier's facility or that of their subcontractors, suppliers and/or business partners with suitable facilities for the purpose of accessing quality system documentation, quality records, perform quality audits, and verify product and processes.

5.9.2 Suppliers shall grant accessibility to Level 2 data in OASIS and equivalent access in eAuditNet (Nadcap), when requested by Onboard Systems H&W. Onboard Systems H&W may input significant/frequent escape data, major audit findings and delinquent responses into the OASIS and eAuditNet databases.

5.10 Supplier Initiated Changes

5.10.1 The following is a list of potential changes that could affect product quality and require notification using H&W ASQR-FRM-0002 or equivalent. For work transfer refer to section 5.11.

- Notification within two business days of any major change in Quality management, ownership, Quality Management System (QMS), or a change in the number of employees or resources (≥10% change within 3 months) used to provide Onboard Systems H&W products or materials.
- A change affecting design characteristics.
- A change in process(es), inspection method(s), tooling, or materials, that can potentially affect design characteristics.
- A change in numerical control program or translation to another media that can potentially affect design characteristics.
- A natural or man-made event, which may adversely affect the manufacturing process.

5.10.2 Changes to supplier designed product that may affect Onboard Systems H&W product requirements shall be approved by each impacted Onboard Systems H&W prior to incorporation, or as required by prior contractual requirements.

5.10.3 Onboard Systems H&W approval of H&W ASQR-FRM-0002 or equivalent does not relieve the supplier of responsibility to meet design characteristics requirements.

5.11 Supplier Managed Work Transfer

5.11.1 When a supplier is planning a work transfer (e.g., make to make, make to buy, buy to buy, buy to make), the supplier shall request approval from each impacted Onboard Systems H&W using H&W-ASQR-FRM-0004; the movement of work shall not commence until approval from all affected Onboard Systems H&W is received. Onboard Systems H&W may notify the supplier of product validation actions that are required to ensure the integrity of the product throughout the life cycle of the project and are maintained after the project is complete (e.g., PPAP, MPR).

- Suppliers shall validate all affected features, characteristics, and compliance to Onboard Systems H&W requirements.
- Transfer of any work (feature, operation, etc.) and multi-sourcing are also work transfers and all requirements shall be met.
- If changing from one source performing a special process to another Onboard Systems H&W approved source a partial FAI shall be completed to document and validate the new special process source; H&W-ASQR-FRM-0004 is not required.

5.11.2 For guidelines on implementing a work transfer process for the supplier and their supply chain, reference IAQG SCMH.

5.12 Documented Information

5.12.1 Changes to documented information (e.g., work instructions, travelers, routers, test reports, shipping documents) shall be recorded, dated, and traceable to a qualified person making the change (e.g., name, signature, stamp, electronic signature) with a permanent marking method and the original information being legible and retrievable after the change.

5.12.2 When specified by Onboard Systems H&W the supplier shall use electronic systems to capture production process verification data (e.g., PPAP, FAI) and audit data.

5.13 Acceptance Authority Media (AAM)

5.13.1 The supplier shall, within its organization and its supply chain, ensure that the use of Acceptance Authority Media (AAM) (e.g., Stamps, electronic signatures/ initial log, passwords) is clearly defined within its QMS. Supplier shall ensure the method of AAM is controlled and secure. The use of AAM is considered personal commitment of accuracy of work performed or witnessed. If an employee is terminated or leaves the Supplier's employment, their AAM access is removed.

5.14 Record Retention

5.11.1 The supplier shall retain all documented information, needed to provide evidence of conformance, while the product is being produced and for a minimum of 10 years after the date of manufacture or after the end of the contract. For flight safety / critical parts, records shall be maintained for 40 years after the date of manufacture. Methods and records shall be available for review by Onboard Systems H&W representatives, customers, and regulatory authorities. All records shall be provided within 48 hours of request.

5.14.2 If the supplier is unable to maintain the quality records, the supplier shall provide the option for Onboard Systems H&W to take possession of the records.

5.14.3 Quality records shall not be destroyed without documented approval from Onboard Systems H&W if prior to the required retention period.

5.14.4 Quality records being destroyed shall be rendered unreadable and unusable.

5.15 Supplier Performance

5.15.1 Onboard Systems H&W monitors their suppliers for risk and performance. Onboard Systems H&W reserves the right to invoke the below items as necessary to manage oversight activities:

- Increased audit frequency
- Corrective action plans
- Continuous improvement initiatives
- Increased level of inspection
- Onsite oversight by Onboard Systems H&W designated third party at supplier's cost (source inspection).
- 100% inspection on identified features.
- Process Failure Mode and Effects Analysis (PFMEA).
- Supplier Improvement Plans
- Capacity and Capability Assessments
- On-site investigations of known problems at the Special Process Supplier
- Manufacturing Process Review (MPR)

5.15.2 Suppliers shall maintain an acceptable performance rating. Failure to meet Onboard Systems H&W performance rating requirements may result in the supplier's removal from the approved supplier list (ASL).

5.15.3 Suppliers are expected to work with Onboard Systems H&W Supplier Quality Engineer to continuously find process and cycle time improvements as well as cost reductions.

5.15.4 Onboard Systems H&W may require additional oversight activities to be implemented within the supplier's supply chain.

5.16 Foreign Object Debris (FOD)

5.16.1 For Foreign Object Debris (FOD) Prevention, Supplier shall comply with the requirements of AS/EN/JISQ 9146.

5.17 Quality Control Requirements (QCR)

5.17.1 The Quality Control Requirements will be listed on the Purchase Order, Contract, or other formal agreement between a supplier and Onboard Systems H&W. For list of the QCRs refer to document WI 7.4.2.4 and can be found at the following locations:

- https://hoist-winch.onboardsystems.com/suppliers/

5.18 Workmanship Standard

5.18.1 Workmanship criteria to be used in conjunction with engineering drawings and specification. Refer to document WI 7.5.1.20 and can be found at the following locations:

- https://hoist-winch.onboardsystems.com/suppliers/

6.0 PRODUCT PLANNING AND CONTROL

6.1 Advanced Product Quality Planning (APQP) and Production Part Approval Process (PPAP)

6.1.1 APQP and PPAP per AS/EN/JISQ 9145 applies when invoked by the PO or any other contractual document issued by Onboard Systems H&W.

6.1.2 When determining the applicable deliverables for APQP and PPAP the supplier shall work with the Onboard Systems H&W quality representative.

6.1.3 When required, the Supplier shall flow down the requirements of APQP and PPAP to all members of the supply chain and maintain records for compliance.

6.1.4 When required, Supplier shall reduce process risk and variation (i.e., using Process Failure Mode and Effects Analysis (PFMEA), control plans, and process control methods).

6.1.5 For guidelines on implementing APQP and PPAP, reference the IAQG SCMH and templates.

6.2 First Article Inspection (FAI)

6.2.1 FAIs shall be performed per AS9102 requirements.

6.2.2 Onboard Systems H&W may request a supplier to perform or provide a copy of a FAI at any time.

6.2.3 Supplier must retain the most recent FULL FAI for all active part numbers, regardless of record retention timeline, even after applies to delta FAI when material is affected.

6.2.4 First article inspection reports sent to H&W require certification of compliance and material certification traceable to the original manufacturer, including all suppliers who may have also handled the product. This also applies to delta FAI when material is affected.

6.3 Raw Material Verification

6.3.1 The supplier shall develop, document, and implement a periodic raw material verification program that will ensure that material(s) received from the supplier's sub-tier sources meets the applicable technical and quality requirements.

6.3.2 Additional raw material verification (e.g., independent lab testing, XRF) shall be based on risk requirements.

6.4 Customer Supplied or Owned Property (Including but not limited to tooling, gages, fixtures, materials, test standards, and equipment)

6.4.1 Suppliers shall maintain an accountable property log to monitor activity and location of customer supplied or owned property in their custody.

6.4.2 Suppliers shall notify the Onboard Systems H&W prior to any alterations of accountable property and ensure all calibration requirement activities are coordinated with Onboard Systems H&W.

- This list will include both the customer property supplied by a facility and fabricated by the supplier to manufacture contracted components but owned by its customer(s).
- The supplier receiving Onboard Systems H&W owned customer property shall return these after PO requirements are completed unless documented approval is received from buyer for an alternative, disposition, including retention by the supplier.
- The supplier shall submit a documented request and receive formal approval before any alteration or repair is performed on customer property using ASQR-FRM-0003 or equivalent.
- Once repair is performed on customer property validation and verification must be conducted prior to use.
- The supplier is responsible for the repair of all supplied property damaged after receipt by the supplier, and for the preservation of customer property which are not in use.
- The supplier is responsible for the preventative maintenance of the customer property and shall have a documented process.
- The supplier is responsible to notify Onboard Systems H&W for any worn customer property.
- The supplier is responsible for the replacement or replacement costs of any customer property that are lost, damaged beyond repair, or not returned.
- All supplied tooling/gages/fixtures in the custody of a supplier are subject to periodic inventory audits and calibration.

6.5 Obsolescence Management

6.5.1 When material, process, or inspection specification(s) are subject to revision, cancellation, or superseding; suppliers shall have a process for obsolescence management that includes risk assessment, and identification of affected parts and assemblies.

6.5.2 When the drawing refers to a material, process, inspection specification, drawing or standard that has been revised, cancelled, or superseded; the supplier shall notify Onboard Systems H&W of any potential,

or known obsolescence. Notification shall be submitted using H&W ASQR-FRM-0003 or equivalent, to the impacted Onboard Systems H&W, with sufficient lead time so as not to disrupt production and delivery schedules. The supplier shall include the following in notification, if known:

- Part number(s) of the products becoming obsolete
- Forecasted manufacturing end date, and/or serial number cut in
- Deadline for placing orders
- Minimum order quantities or last buy opportunities related to obsolete product
- Cause of the obsolescence
- Name of suggested replacement product
- Storage recommendations
- Time period for the availability of records for the obsolete product (e.g., conformance data, technical data, etc.)

6.6 Counterfeit Risk Mitigation

6.6.1 Suppliers and distributors shall implement and enforce a documented Counterfeit Parts Prevention and Control Plan per industry standards. The plan shall flow down requirements of AS5553, AS6174, DFARS 252.246-7007, and/or DFARS 252.246-7008 as applicable throughout the supply chain.

6.6.2 The use of material and hardware with broken traceability or sourced from a non-authorized supplier (e.g., independent distributor/broker) is prohibited unless approved by Onboard Systems H&W. Supplier shall notify Onboard Systems H&W using H&W ASQR-FRM-0003 or equivalent.

6.6.3 The use of Electrical, Electronic, and Electromechanical (EEE) parts with broken traceability or sourced from a non-authorized supplier (i.e., independent distributor/broker) is prohibited unless the non-authorized supplier is AS6081 certified and the EEE is subject to a Counterfeit Avoidance Programmed in accordance with the guidelines of ARP6328. Supplier shall notify Onboard Systems H&W using H&W-ASQR-FRM-0003 or equivalent prior to shipment.

6.7 Monitoring and Measurement of Equipment

6.7.1 Supplier management systems for the control of monitoring and measuring equipment shall meet the requirements of ISO10012 or ISO17025.

6.7.2 Suppliers shall document an impact review whenever monitoring and measuring equipment is identified with a Significant-Out-Of-Tolerance condition (an out of tolerance condition exceeding 25% of the product tolerance or when measured error of the monitoring and measuring equipment is greater than two times the calibration tolerance when product tolerance is not known) and notify Onboard Systems H&W by submitting H&W-ASQR-FRM-0006 or equivalent within two business days of discovery if impacted product has been shipped.

6.8 Monitoring and Measurement of Product

6.8.1 Suppliers shall select monitoring and measuring equipment with a minimum accuracy ratio of 4 to 1 (product tolerance to equipment tolerance) unless otherwise specified.

6.8.2 Suppliers shall perform Measurement System Analysis (MSA) on all measurement systems used to measure Product Key Characteristics (KCs) as defined in AS9103.

6.8.3 When determining critical features (characteristics) refer to AS9138.

6.8.4 Suppliers shall have a process for on-going verification of visual acuity and color vision for individuals performing product inspection.

6.9 Inspection Sampling

6.9.1 Suppliers shall comply with the requirements of AS9138 as required when no sampling plan is identified on the print.

6.9.2 Product acceptance inspection shall be 100% for all characteristics until the inspection requirements of AS9138 have been achieved.

6.9.3 Approval of alternate inspection frequency plans shall be obtained from Onboard Systems H&W using H&W-ASQR-FRM-0003 or equivalent.

6.9.4 Pegasus - Supplier Inspection Requirements – Refer to document SQ 8.2.2.1 and can be found at the following locations: https://hoist-winch.onboardsystems.com/suppliers/

6.10 Operator Certification

6.10.1 Supplier shall request and obtain approval for the use of an Operator Certification program or special manufacturing methodologies (e.g., manufacturing controlling features, die/mold control, and method of manufacturing), from Onboard Systems H&W using H&W-ASQR-FRM-0003 or equivalent.

6.11 Special Processes

6.11.1 Special Process Suppliers shall have their QMS certified to AS/EN/JISQ 9100 or Nadcap AC7004.

6.11.2 In addition, all Special Process Suppliers in the supply chain shall be Nadcap accredited for the following special processes:

- Chemical Processing
- Coatings
- Electronic (Printed Board, Printed Board Assembly, Cable & Harness)
- Heat Treating
- Materials Testing Laboratories
- Nonconventional Machining
- Surface Enhancement
- Nondestructive Testing
- Welding

6.11.3 Onboard Systems H&W may require additional special process accreditations. A list of required accreditations can be found in the Corporate Family section of www.eAuditNet.com

6.11.4 Design Responsible Supplier shall have a comprehensive special process management program in place for the special processes listed in paragraph 6.11.2.

6.11.4.1 The program shall include maintaining a list of qualified Special Process Suppliers along with their Nadcap approval status.

6.11.4.2 If Special Process Suppliers do not hold Nadcap certification, Design Responsible Supplier shall maintain appropriate oversight of internal and supplier processes including, but not limited to, onsite special process audits, periodic testing of product, and other means to validate product integrity.

6.12 Preservation of Product

6.12.1 Suppliers shall deliver material/article within shelf life. Onboard Systems H&W reserves the right to reject and/or return any material with less than eighty percent (80%) shelf life remaining unless covered by other H&W documentation.

6.12.2 For environment-sensitive or age-sensitive material, the supplier shall provide information regarding shelf-life start date (e.g., manufacturing or cure date), shelf-life expiration date or time period, pot life requirements and recommended storage conditions (e.g., temperature and humidity), as applicable. This information shall be affixed on the material container and included on the supplier's Certificate of Conformance/Compliance (CofC) and/or Test Report. At a minimum this information shall include the following:

- shelf-life start date in MM/DD/YY format
- shelf-life expiration date in MM/DD/YY format, or expiration time period (e.g., 1-year)
- any required storage conditions such as temperature and humidity

6.12.3 Applicable HAZCOM information shall be located on either the container and/or requested certifications.

6.12.4 Safety Data Sheets (SDS) sheets may be applicable to the type of item purchased and shall be retained per record retention requirements.

6.12.5 The packaging of product shipped to Onboard Systems H&W shall ensure protection from transit damage and at a minimum comply with the following as applicable (in addition to any stated requirements in Drawings / Specifications):

- Reference ASTM-D3951 for Standard Practice for Commercial Packaging 6.14.5.2 Reference MIL STD-2073 for Standard Practice for Military Packaging

6.13 Direct Shipment/ Drop Shipment

6.13.1 When authorized by the PO, suppliers shall ship directly to customers.

6.13.2 The supplier shall provide a copy of the shipping documentation sent with product to the Onboard Systems H&W (e.g., Lot).

6.14 Frozen Processes

6.14.1 During the H&W Flight Safety/Critical Part Review or during subsequent quality review, Frozen Processes may be established for some products. Frozen processes shall be identified as such on the supplier's manufacturing router of job traveler. These processes shall not be changed without Onboard Systems H&W approval. Changes refer to process parameters, equipment, tooling or plant layout as well as a change of sub-tier supplier.

6.14.2 Requests for frozen process change approval shall be submitted to the buyer or SQE through the proper H&W-ASQR-FRM-0003 SRI form.

6.14.3 The supplier shall also flow this requirement to applicable sub-tiers.

6.14.4 All changes to frozen processes will require new first article inspection report in accordance with AS9102 and this document.

6.15 Suppliers for Maintenance, Repair, and Overhaul (MRO)

6.15.1 All MRO suppliers must meet all applicable requirements of H&W-ASQR-0001 including any other specifications on the purchase order or contract. MRO supplier shall provide, at a minimum, a Certificate of Conformance for the service provided. In addition, all U.S.-based MRO service-suppliers for commercial articles must obtain a FAA approved drug and alcohol program per 14 CFR Part 120.

7.0 CONFORMANCE

7.1 Product Inspection Certification

7.1.1 A Certification of Conformance / Compliance (CoC) shall accompany each shipment and include the information from Table 7-1: Certificate of Conformance Minimum Information, as applicable.

Table 7-1: Certificate of Conformance Minimum Information

1. Certificate of Conformance/Compliance	9. Part nomenclature or description per PO line item
2. Name and address of the organization/ supplier/ manufacturer providing product to Onboard Systems H&W	10. Quantity of parts delivered
3. Name and address of Onboard Systems H&W facility product is delivered to.	11. Serial number(s) of parts delivered for serialized parts. If serialization is not required, Work Order or Batch/Lot number shall be provided
4. Commercial and Government Entity (CAGE) Code / Unique Entity Identifier (UEI) Code (as applicable)	12. If applicable, non-conformance report number (e.g., QN, MRB #, etc.) Additional SBU requirements may apply.
5. Country of Manufacture and/or Country of Origin	13. Statement of conformity (e.g., “I hereby certify the material / service supplied was produced in accordance with the PO, and all applicable drawings and specifications.”)
6. PO #, Revision, and Line Item	14. Signature or electronic signature and title of authorized supplier representative with date
7. Full drawing or specification number with revision per PO (Configuration Requirements)	15. Source or DQR/ or Third-Party inspection stamp or electronic equivalent with date if applicable.
8. Part number as listed on the PO	

7.1.2 Original equipment manufacturer (OEM) or OCM CoC shall be provided by the Supplier. Onboard Systems H&W reserves the right to request this documentation at any time.

7.1.3 A Certificate of Analysis (CoA) provided by an issuer accredited by ILAC (International Laboratory Accreditation Cooperation) may replace a CoC for raw materials and chemicals that assures conformance to all applicable material specification requirements.

7.1.4 When required, either a FAA Form 8130-3 tag or EASA Form 1 or CAA UK Form 1 shall be included with each Product for airworthiness approval.

7.1.5 Chemical/Raw material certifications shall reflect actual values (not range), including mill data, and that the material certifications match the drawing, specification requirements including part number and revision. Onboard Systems H&W requires unbroken chain of ownership from the mill to the PO supplier (e.g., packing slips/ CoCs from each intermediary distributor).

7.1.6 When parts or materials require approved special processes, a special process certification shall be available and provided per Onboard Systems H&W requirements for each production shipment. At a minimum, the special process certification shall include the name and location of the certified special processor and the special process being performed when applicable drawing note including, e.g., the specification, class, type, color).

7.1.7 Supplier shall verify product compliance from the certification received from their sub tiers.

7.2 Corrective Action

7.2.1 When a nonconformance is identified, Onboard Systems H&W may issue Supplier Corrective Action Request (SCAR).

7.2.2 Suppliers shall have a documented procedure for corrective action which includes requirements to respond to Customer complaints and requests for corrective action. The supplier is required to utilize appropriate methods such as Eight Disciplines (8D) or equivalent process for problem solving to develop appropriate root cause analysis and corrective action.

7.2.3 Upon implementation of corrective action, to ensure effectiveness, Suppliers shall have a documented process in place to ensure that 100% over-inspection (i.e., additional independent measurement of the affected characteristic(s)) is performed of the deviated characteristics for a minimum of the next three consecutive manufactured lots (quantities of parts produced under conditions that are considered uniform) unless otherwise specified by Onboard Systems H&W.

7.3 Nonconformity

7.3.1 All product reworked shall have documented work instructions.

7.3.2 The Supplier shall request and obtain approval for rework of product subject to frozen process control.

7.3.3 Non-conforming product not subject to frozen process control, that can be reworked to meet all product requirements within the existing manufacturing process does not require Onboard Systems H&W notification or request for approval/disposition.

7.3.4 Onboard Systems H&W may assign Key Characteristic requirements as specified in AS9103 for escapes, repeated escapes, or recurrent concession requests.

7.3.5 Unless authorized by Onboard Systems H&W with a formal Material Review Board (MRB) letter of delegation, suppliers shall follow the Onboard Systems H&W requirements for MRB disposition and control. This includes suppliers with design authority as directed by MRB.

7.3.6 Suppliers shall not disposition Use-As-Is (UAI) or repair, without formal approval from Onboard Systems H&W MRB.

7.4 Request for Product Pre-Delivery Variance

7.4.1 Suppliers shall take the following steps when nonconforming material is found and cannot be Reworked:

- Identify the nonconforming material
- Segregate and contain the material in a controlled area (e.g., bonded area, MRB crib, etc.)
- Submit a Vendor Variation Request (VVR) form detailing the discrepancy, quantity discrepant, the cause and corrective action to eliminate the discrepancy, and the effectivity point of the corrective action.

7.4.2 VVR request forms are available upon request from a H&W Buyer and/or Onboard Systems H&W Supplier portal at https://hoist-winch.onboardsystems.com/suppliers/

7.4.3 VVRs are subject to both quality rating impact and potential chargeback for cost of processing, Corrective Action Review, and/or require on-site audit by H&W team or delegate.

7.4.4 VVR request is not required for conforming Reworked material.

7.4.5 Nonconforming parts and material shall not be shipped without an approved VVR from Onboard Systems. The approved VVR form shall be shipped with the parts. The VVR number should be referenced on the Certificate of Conformance/Compliance (CofC).

7.4.6 Email or verbal communication does not constitute authorization to deviate from design requirements.

7.5 Notice of Potential Quality Escape (NOPQE) or Disclosure

7.5.1 Suppliers shall notify Onboard Systems H&W of delivered suspected non-conforming product using H&W-ASQR-FRM-0006 or equivalent within two business days of discovery

8.0 APPENDIXES

Appendix 1 – Supplier Definition Table for Applicability

SUPPLIER TYPE	DEFINITION
Type 1: BTP – Onboard Systems H&W Design Part Manufacturer	BTP - Onboard Systems H&W Design Part Manufacturer Supplier of products and/or assemblies with H&W-designated part numbers as defined on proprietary Onboard Systems H&W drawings or other technical definitions (also known as BTP parts). **Note 1**: Castings and forgings are considered BTP – Onboard Systems H&W Design Parts. **Note 2**: This includes suppliers that purchase parts from third parties manufactured against Onboard Systems H&W proprietary drawings even though they may not add any additional value themselves.
Type 2: Design Responsible Supplier – Build to Spec	Supplier of products defined by a design/drawing proprietary to that supplier and linked to a Onboard Systems H&W part number using a H&W-referenced drawing and/or other PO requirements (e.g., Category 1, Source Control, Source Design, Engineered Item). **Note**: H&W-referenced drawings may contain additional Onboard Systems H&W requirements.
Type 3: Distributor (Raw material and COTS)	Organization carrying out the purchase, storage, splitting, and sale of products and not transforming, assembling, or otherwise modifying purchased product. Distributors are limited to raw material, industry standard, and COTS parts.
Type 4: Special Process Supplier	Supplier that provides special processes on Onboard Systems H&W products.
Type 5: Calibration or Laboratory Service Provider	Organization qualified to perform calibration services on Measuring and Test Equipment (monitoring and measuring equipment) used in the production of Onboard Systems H&W products and laboratory services to include material testing.
Type 6: Industry Standard Part or Industry Standard Raw Material Manufacturer	Manufacturer of raw material that conforms to an established industry or national authority-published specification (e.g., Aerospace Material Specification (AMS).