

COMPANY STANDARD

HS Marston Aerospace Limited

a Collins Aerospace Company
Wobaston Road, Fordhouses,
Wolverhampton, WV10 6QJ, UK
TEL: +44 (0) 1902 572777 / FAX: +44 (0) 1902 572888



Document Number: QA1019	Sheet 1 of 42	Date: 08-10-2019	Issue: 6
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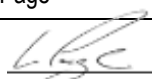
TITLE: HS MARSTON AEROSPACE LIMITED SUPPLIER SUBCONTRACTOR REQUIREMENTS
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HS Marston Aerospace Limited

a Collins Aerospace Company

Document Number: QA1019	Sheet 2 of 39	Date: 08-10-2019	Issue: 6
--------------------------------	----------------------	-------------------------	-----------------

This procedure specifies the **minimum** requirements stipulated to HS Marston Ltd (HSM) externally provided processes, products, and services. It is based on the broad QMS criteria of AS9100 and ISO 9000. The absence of any particular requirement from this procedure (particularly where the externally provider's industry has specific Quality Assurance Schedules – or the equivalent) does not exonerate the external provider from implementing full quality assurance on the supplies provided to HSM.

Where Collins Business Entity (defined as "Member") part numbers are flowed out to HS Marston sub tier levels for product manufacture or services, Collins External provider Quality Requirements ASQR-01, shall apply. HS Marston Aerospace Ltd, published purchase Orders shall invoke ASQR-01.

As a Company Procedure this document will not normally be divulged to outside authorities (except for Approved Suppliers), but where this requirement does occur, it must be carried out on an official basis and with the permission of the Company Quality Manager.

Under no circumstances will an external provider or sub-contractor to HSM be permitted to pass this document, or copy, either in full or in part, to a third party.

The terms HS Marston Aerospace Ltd (HSM) and Collins Aerospace - Engine & Control Systems Marston Aerospace, shall be used synonymously for intent and requirement within this document

CHANGE HISTORY

Date	Revision From	Revision To	Description of Change
08/10/19	5	6	Website address updated
07/05/2019	4	5	Inclusion of Collins procedure references and new header format.
20 th Nov 2018	3	4	Tidy up type errors with ME to QA changes.
19 th Apr 2018	2	3	5.0 General Conditions – ASQR.01 summary added
29 th Mar 2018	1	2	22.0 Working amended
2 nd Oct 2017	21	1	Title Renamed to QA1019 to fall in line with new QMS.
			4.0 Contractual Note, Obsolescence, text added.
			6.1 Control of Records, Special Process retention added text
			7.2.2 External Provider Concession Request, text changes.
			21. Raw Material Control, text changes.
			22. Control of Fraudulent and Counterfeit Material, text changes.
			23. Product Safety clause added.
			24. Company Website re-numbered.
Appendix 1 -5 re-numbered			

HS Marston Aerospace Limited

a Collins Aerospace Company

Document Number: QA1019

Sheet 3 of 39

Date: 08-10-2019

Issue: 6

INDEX

<u>Section</u>	<u>Title</u>	<u>Sheet</u>
	Foreword and Scope	1
	Change History	2
	Index	3
1	Purpose	4
2	Scope	4
3	Terms and Definitions	5
4	Contractual Note	5
5	General Requirements	7
6	Quality Management System	9
7	External provider Quality Objectives	10
8	External provider Progress and Development	15
9	Product Identification and Traceability	16
10	Change Control	17
11	First Article Samples	18
12	Layout Inspection	20
13	Process Certification	21
14	External provider Manufacturing Process Control	23
15	Frozen Process	24
16	Vendor Rating	25
17	External provider Surveillance Audits	27
18	Health & Safety Compliance	28
19	Export Controls	29
20	Collins – UPPAP	30
21	Raw Material Controls	30
22	Control of Fraudulent Counterfeit Material	31
23	Product Safety	32
24	Company website www.hsmarston.co.uk	33
Appendix 1	CAR – Corrective Action Report	34
Appendix 2	HS Marston Process Certification Readiness Audit	36
Appendix 3	External Provider Product Audit Check sheets	37
Appendix 4	External Provider Score Card	38
Appendix 5	External Provider Concession Production Permit Request.	39

HS Marston Aerospace Limited

a Collins Aerospace Company

Document Number: QA1019

Sheet 4 of 39

Date: 08-10-2019

Issue: 6

SECTION 1

1.0 PURPOSE

To clearly define the minimum HS Marston Aerospace Ltd (HSM) externally provider quality requirements.

To ensure full understanding of the externally provider quality activities required from HSM external provider base.

To flow down HSM specific customer requirements that external providers shall also consider when doing business with HSM.

This procedure is stipulated in all HS Marston products, process and service purchase orders and its content shall be invoked by acknowledgement of such purchase orders.

SECTION 2

2.0 SCOPE

To all external providers working directly to HSM purchase orders where the products/processes/services are passed through to the customer.

All external providers in the HSM supply chain, supplying raw materials; special processes and services to either HSM direct or via HSM approved suppliers.

Where appropriate registered external providers can access their HS Marston purchase order requirements via the Collins "Supplier Portal" website.

HS Marston Aerospace Limited

a Collins Aerospace Company

Document Number: QA1019

Sheet 5 of 39

Date: 08-10-2019

Issue: 6

SECTION 3

3.0 TERMS AND DEFINITIONS

ME/QA	HSM Specification.
PD	Process Document.
QCP	Quality Control Procedure.
SOP	Standard Operating Procedure.
NADCAP	National Aerospace and Defence Contractors Accreditation Program.
C/PP	Concession / Production Permit.
NDA	None Disclosure Agreement.
MSDS	Material Safety Data Sheet.
COSHH	Care of Substances Hazardous to Health.
OTD	On Time Delivery.
FOD	Foreign Object Debris.
CAR	Corrective Action Report.
SAQ	External provider Approval Questionnaire
QASL	Quality Approved External Provider List.
UPPAP	Collins Production Part Approval Process
PFMEA	Process Failure Mode & Effect Analysis
DFMEA	Design Failure Mode & Effect Analysis
CEO	Customer Eyes Over check
CBR	Control Build Review

SECTION 4

4.0 CONTRACTUAL NOTE

Acceptance of any HSM purchase order contractually mandates the delivery of parts or services to the specification(s) detailed herein. This procedure reinforces the HSM Terms & Conditions.

The external provider shall not place work carried out for HSM to a third party provider without prior written approval from HSM.

The supplier shall ensure as part of their contract review process that any issues surrounding material, part, or service, obsolescence is declared and communicated immediately to HS Marston prior to order acceptance.

The external provider shall afford access to records associated with supply of parts to HSM, to any authorized HSM representative and any authorized representative of a Regulatory Body e.g. EASA, CAA or MOD etc.

HSM and where required its customers and regulatory body shall be afforded the right of access to the external providers premises, at all reasonable and agreed times, for the purpose of ensuring that the quality of work proposed for HSM is satisfactory and airworthy.

HSM shall be afforded the right of access to an external providers sub-tier premise, at all reasonable and agreed times, for the purpose of ensuring that the quality of work proposed for HSM is satisfactory.

Where required the external provider shall permit an HSM assessment of its Quality Assurance System, irrespective of any approvals already held by the supplier.

Collins, hold in the highest regard the safety and ethical behaviour of its employees. External providers to Collins and its subordinate business units, e.g. HS Marston, shall be expected to aspire to the highest level of employee safety and

HS Marston Aerospace Limited

a Collins Aerospace Company

Document Number: QA1019	Sheet 6 of 39	Date: 08-10-2019	Issue: 6
--------------------------------	----------------------	-------------------------	-----------------

ethical behaviour. Therefore, external providers shall ensure their organisation's strive to the highest levels of employee safety and look to prevent exploitation of its employees. External providers shall ensure such ethics and safety cultures are flowed out down their sub tier levels. Where evidence exists that employees safety and ethical behaviour does not meet these expectations HS Marston may terminate its dealings with the external provider.

4.1 INTELLECTUAL PROPERTY RIGHTS

Tooling or equipment that is solely owned by HSM or its customer shall retain all intellectual property rights associated with the manufacture and up keep of such items. The external provider hereby assigns HSM by way of future assignments all rights in any Intellectual Property, which would otherwise vest in it/or the full term during which any such rights subsist.

Where intellectual property is in dispute the external provider shall communicate in writing to HSM purchasing department prior to manufacture of initial samples. Failure to identify a dispute of property rights by the external provider prior to first article samples shall void any later claims.

4.2 CONFIDENTIALITY

HSM offers its customers a full design and manufacturing service. Therefore, HSM requires and expects full confidentiality from its external providers when involved with new designed or modified products. Acceptance by the external provider of this document shall be seen as acceptance to all associated confidentiality requirements. Additionally, a formal Non-Disclosure Agreement (NDA) document shall be issued to the external provider via the HSM Purchasing Department.

HS Marston Aerospace Limited

a Collins Aerospace Company

Document Number: QA1019	Sheet 7 of 39	Date: 08-10-2019	Issue: 6
--------------------------------	----------------------	-------------------------	-----------------

SECTION 5

5.0 GENERAL REQUIREMENTS

The HSM external provider shall be fully responsible and accountable for the quality, cost and delivery performance of sub-tier suppliers to their business in respect to those items and services delivered to HSM.

This requirement includes any sub-tier external provider nominated by HSM or by its customers, e.g. Rolls Royce, Pratt & Whitney, Hamilton Sundstrand etc.

It is the intention of HSM to place orders with suppliers who have approvals to National or International standards. The minimum requirement being certified to BS EN ISO 9001 and either actively working towards SAE AS9100 or fully certified. Distributed parts suppliers shall be certified to AS9100 or AS9120, or suitable alternative agreed by HS Marston. Legacy suppliers who are not certified to AS9100 shall not be considered for new product opportunities. Purchase Orders flowed out by HS Marston that invokes ASQR-01 Quality Management Systems requirements shall be completed only by suppliers who are certified to AS9100.

Where HS Marston purchase orders invoke ASQR-01, section 6.2.2 Competence, Training and Awareness requires suppliers to implement routine eye examinations of key employees, see extract below.

Procedures shall be implemented to ensure that eye examinations, including visual acuity and colour vision, as applicable, are administered by a medically qualified / trained person to all individuals performing visual inspection, other product acceptance activities and/or M&TE calibration that require visual acuity.

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

For special processes, only NADCAP approved suppliers shall be acceptable and can only be waived under specific and limited situations in writing from HS Marston Ltd as detailed in COL-WRK-0003-00. Suppliers of Rolls Royce designed components and/or HS Marston designed components for inclusion into Rolls Royce assemblies, shall be required to meet NADCAP approvals. Details for NADCAP approvals can be obtained from www.pri-network.org.

Additional approvals recognised are; ADS-SC21, EASA pt 145, EASA pt 21 FAR145, UKAS, etc dependent upon the scope of supply and nature of the business activity.

Suppliers, and their sub tiers suppliers, of Rolls Royce designed components shall have business/quality operating systems compliant with RR9000- SABRe and hold relevant Rolls Royce certified approvals.

HSM suppliers are actively encouraged to attain national approvals in Environmental and Health & Safety, BSEN ISO14001 and OHSAS 18001 respectively. Suppliers who possess these approvals shall be considered more favourably when requesting new work tenders.

HSM must be notified in advance of any significant changes to the supplier's approval status which may affect continued quality and delivery. e.g.

Business ownership

HS Marston Aerospace Limited

a Collins Aerospace Company

Document Number: QA1019	Sheet 8 of 39	Date: 08-10-2019	Issue: 6
--------------------------------	----------------------	-------------------------	-----------------

Manufacturing locations
Process or inspection techniques
Pending EH&S legal actions
Loss or change in national / international certified approvals.
Loss or change in customer approvals.

HSM require all suppliers to maintain records of their approval certificates, where approval certificates expire the external provider is responsible for sending replacement copies to HSM via the Supplier Quality Engineer. Failure to supply the due approval certificates may lead to the external provider being removed from the Quality Approved Supplier List (QASL) and hence suspend shipment of goods. Periodically (approximately 2 yearly interval) HSM shall issue to the supply chain a mail shot requesting a detailed summary of the suppliers full approvals status.

Copies of the supplier's Quality, Environmental and Health & Safety manuals, where applicable, shall be issued to HSM when requested by the Quality Manager. All supplied details will be treated in strictest confidence.

Suppliers who do not possess National or International approvals shall be required to demonstrate conclusively their Quality Management System and quality controls meet an acceptable minimum requirement. This shall be determined by a fully completed Supplier Approval Questionnaire (SAQ) proforma, ref HSM/Q56. Suppliers are required to return a fully detailed, signed and dated SAQ, HSM/Q56 proforma prior to orders being placed. Suppliers who do not possess National or International approvals may not be preferred in new work tending and HSM reserves the right to relocate orders to suppliers who have achieved certification.

Suppliers accepted by HSM shall be added to the HSM Quality Approved Supplier List (QASL) and given a unique approved supplier number. HSM shall issue to the external provider an approved supplier certificate HSM/Q60 detailing the approved QASL AS number.

Suppliers who fail to maintain acceptable levels of quality cost, delivery, EH&S and ethical performance may face removal from the approved external provider list with the resultant loss of continued HSM business.

HS Marston Aerospace Limited

a Collins Aerospace Company

Document Number: QA1019	Sheet 9 of 39	Date: 08-10-2019	Issue: 6
--------------------------------	----------------------	-------------------------	-----------------

SECTION 6

6.0 QUALITY MANAGEMENT SYSTEM

6.1 CONTROL OF RECORDS

The external provider shall be responsible for ensuring obsolete documents/records are destroyed and replacement document/records where necessary, are used and understood within their facility. HSM suppliers shall be required to control all issued drawing, ME; PD; QCP; & SOP specifications where required. Changed drawings and related specifications shall be issued to the supply base under a revised Purchase Order requirement. HSM purchasing department shall publish periodically a list of revised specifications to the supply base. It is the responsibility of the external provider to review all specifications held and to alert the appropriate commodity buyer of any revised changes and to request replacements. The supplier shall conduct a robust contract review process.

Where HS Marston publishes an advanced copy drawing to the supplier, the drawing shall be marked up appropriately to communicate it is an unapproved drawing. All advanced copy drawings shall be destroyed by the supplier and shall not be used to submit deliveries of items with C of C or FAIR coverage.

All records associated with supply of HSM products shall be retained by the external provider for minimum period of 10 years, where necessary, such records shall be retrievable for HSM review within a 2 working days of request. Permission must be obtained in writing from the HSM Quality Manager prior to the disposal of HSM records. Where applicable, retained documented information relating to Special Process records, shall be retained for 30 years.

Where non-electronic records are generated by the external provider the records shall be documented in ink or other permanent marking. Whitening fluid corrections shall not be acceptable. Where document corrections are made these shall be crossed through so that the error can still be legible. e.g. ~~correction~~, and signed or stamped with a date indicating the day of alteration.

Where the external provider holds HSM documents the external provider shall take full responsibility for the protection of the documents from loss, damage and shall refrain from marking up or amending such documents other than part of a FAIR drawing mark up. The external provider shall not divulge HSM documents to a third party without prior HSM authorisation.

The external provider shall detail those persons with authority to represent the external provider in decision making matters of Quality; Environmental and Health & Safety issues concerning HSM product and business impact. This will be communicated via the completed HSM/Q56 Supplier Approval Questionnaire (SAQ) proforma, issued to the external provider base.

Suppliers must return a fully completed signed/printed HSM/Q56 form as required in Section 5.

HS Marston Aerospace Limited

a Collins Aerospace Company

Document Number: QA1019	Sheet 10 of 39	Date: 08-10-2019	Issue: 6
-------------------------	----------------	------------------	----------

SECTION 7

7.0 EXTERNAL PROVIDER QUALITY OBJECTIVES

HSM has an obligation to its customers to guarantee the quality of its products and services, as such quality is agreed and is reasonably expected.

Following this basic principle, suppliers of HSM shall also develop, produce and inspect all supplies in such a way that compliance with all required quality characteristics is ensured. HSM require all suppliers to operate a 100% Inspection protocol to all products supplied unless prior written approval to the contrary has been given by HSM Quality Department.

HSM ultimate goal is customer satisfaction, HSM Supplier Chain plays a crucial role in achieving this. In addition to the stipulated engineering drawings (**unless superseded by customer specific requirements**) HSM require, as appropriate to the items/services supplied, the supplied products to achieve additional quality standards in accordance with those detailed below:-

1. Visual inspection requirements.	ME1003.
2. Control of Bent Tubular Components.	PD26.
3. General requirements visual Inspection on Fluid Management component parts.	ME1178.
4. Definitions of Corrugation Height Tolerances	ME887
5. Acceptance Standard for fusion Welding	ME422
6. Handling, Storage, Packaging, Preservation and Delivery.	ME1168
7. Acceptance Criteria for Matrix Components.	ME1381
8. Statistical Process Control for Suppliers	ME1108
9. Requirements for 3000AlMg Alloy strip supplied in coil.	ME160
10. Material specification brazing sheet for Vacuum Brazing.	ME170
11. Material specification Al6000 series brazing sheet for Vacuum Brazing.	ME1393
12. Material specification for Inconel and nickel material sheet and coil.	ME428
13. Acceptance Criteria for Laminate Components.	ME1412
14. Measurement Plan for etched laminate components.	ME1422

The external provider shall be responsible for maintaining the correct issue level as detailed in section 6 above. The external provider should also remain vigilant to changes published via the Collins Supplier Portal.

7.1 CUSTOMER COMMUNICATION.

Suppliers shall utilize the HS Marston coordination memo document proforma, HSM/SQ101, for making request for information / clarifications associated with product and or specification compliance, for either new or changed product introduction.

Verbal agreements or instructions shall under no circumstance be construed as approval or authorisation to proceed.

External provider request for information shall be detailed in writing utilising the coordination memo document and submitted to the HS Marston procurement department.

Typical examples of external provider request for information are:-

- Clarification of a drawing anomaly which could result in a supplied non-conformance.
- Clarification / interpretation of a drawing feature or specification when not part of a formal concession request.
- Alternative method to a quality system requirement. Any such alternative must have received

HS Marston Aerospace Limited

a Collins Aerospace Company

Document Number: QA1019	Sheet 11 of 39	Date: 08-10-2019	Issue: 6
--------------------------------	-----------------------	-------------------------	-----------------

formal approval from HS Marston prior to implementation.

External provider request for information shall not supersede ECR (Engineering Change Request) systems and external provider concession request systems.

7.2 CERTIFICATE OF CONFORMITY C of C

All products supplied to HSM must be accompanied by a valid Certificate of Conformity. Similarly all goods purchased by the external provider must be certified. As a general rule, all certificates must contain.

1. Drawing number
2. Drawing Issue
3. Part number of the product
4. Description of the product
5. Statement of conformance to QA1019.
6. The quantity of product in the consignment covered by the certificate
7. Certificate number
8. Details of the external provider QMS approvals e.g. ISO 9001 / AS9100 etc.
9. CpK values published for each KPC features detailed on drawing.
10. A signed declaration of the products conformity
11. Date of issue
12. Country of Origin.

Where a external provider Concession / Production Permit has been approved, the C/PP tracking number shall be detailed on the C of C for the approved duration. A copy of the Concession / Production Permit shall be added in the delivery document pack.

Suppliers of castings to HSM must provide a Radiological Report, which has been certified by a qualified Radiologist, with each unit delivered.

7.2.1 CONTROL OF NON CONFORMING MATERIAL

The external provider shall operate a zero defect culture within its organisation with emphasis placed on defect prevention rather than detection.

In the event of non-conforming/defective product/raw material being discovered within the supplier's premises, these items **shall not be delivered** to HSM without prior written acceptance by HSM.

7.2.2 EXTERNAL PROVIDER CONCESSION REQUEST

Where an external provider considers the items they have produced may not be fully to specification, but maybe suitable for use, the external provider shall request either a concession or a production permit proforma document, depending on the definitions detailed below.

Concession / Production Permit HSM definitions:

- HS Marston regards a Concession request to apply to product that has been made and is none conforming but may be fit for purpose.

HS Marston Aerospace Limited

a Collins Aerospace Company

Document Number: QA1019	Sheet 12 of 39	Date: 08-10-2019	Issue: 6
--------------------------------	------------------------------	-------------------------	-----------------

- HS Marston regard a Production Permit to be a request for parts not made, but requires HS Marston approval to proceed.

Proforma document example ref Appendix 5.

The external provider will receive the proforma document from their corresponding HS Marston buyer, the external provider shall be responsible for completing the documents correctly and providing all corrective a preventative actions taken and to provide root cause analysis to concession requests. The external provider shall publish their details to the HS Marston buyer. If approved, the Buyer shall return the approved form to the external provider with notification of acceptance together with a dedicated C/PP (External provider Concession/Production Permit) number.

The concession shall be entered into the HSM database as detailed in QA1014 Rejection Procedures. The External provider shall implement all necessary actions to identify and segregate all non-conforming products.

HSM considers concessions as undesirable but is prepared to consider them in exceptional circumstances. Concession quantities requested by the external provider must be maintained to a minimum. Accepted concessions shall go against the suppliers score card performance rating.

Any concession accepted by HSM shall be specific to the batch quantity detailed on the External provider Concession database entry. Repeat concessions must recommence the process with a new C/PP number allocated.

Where a concession approval has been given, the external provider must enter the C/PP number on all delivery documentation for the duration of the Concession/Production Permit. The External provider must ensure all corrective actions are completed within the period of the concession and that no further items are delivered beyond the accepted end date/quantity. Otherwise, a separate concession shall be required.

Where required the external provider shall complete a CAR (Corrective Action Report) Proforma HSM/Q121 detailing the actions necessary to prevent recurrence.

7.2.3 EXTERNAL PROVIDER QUALITY ESCAPE

Where non-conforming supplied product/raw material reaches HSM a Corrective Action Report (CAR) HSM/Q121 shall be issued to the external provider together with the rejected items. The CAR shall have detailed the information necessary to communicate the error/fault with the received items, see example in Appendix 1.

The external provider shall be required to investigate the root cause of the error/fault and to apply root cause analysis techniques such as operating 5Y questions, Fault Tree, Fishbone diagrams, DIVE (Define Investigate, Verify, Ensure) or DMAIC (Define, Measure, Analyse, Improve and Control) sufficient to prevent a repeat quality escape. HSM shall assess the level of investigations performed by the external provider on the returned CAR and grade them on error proof scale of 1 to 3.

- Grade 1 Where actions taken shall totally prevent the original error being repeated.
- Grade 2 Where actions taken shall detect the error being repeated at the point of manufacture.
- Grade 3 Where actions being taken shall detect the error after manufacture and prior to shipment.

External Providers are actively encouraged to apply the highest error proofing techniques possible with suppliers being measured on their error proof processes. External providers who apply high levels of error proofing shall be preferred. External providers shall implement a read across activity to all related products and processes where appropriate.

HS Marston Aerospace Limited

a Collins Aerospace Company

Document Number: QA1019

Sheet 13 of 39

Date: 08-10-2019

Issue: 6

External providers as part of their root cause analysis to confirmed escapes shall consider as applicable those aspects relating to Human Factors. Aerospace governing bodies have long established the link between non-conformance to requirements and those relating to Human Factors. The external provider is encouraged to review and consider Human Factors in their processes for corrective and preventative actions.

HSM require completed CAR's returned within a maximum of 30 days of the rejected items being returned. Suppliers shall be monitored on their response times. HSM shall operate an escalation process involving senior members of HSM and senior members of the suppliers organisation for overdue CAR's.

External providers in response to a CAR shall conduct appropriate containment actions as necessary to identify any stock & work in progress product non-conformance and inform HSM as soon as practicably possible of any non-conformance product detected. Details of any containment actions taken shall be added to section 2 of the CAR document.

The external provider shall perform a 100% physical/measured inspection of the non-conforming feature(s) detailed in the published HS Marston CAR document. The results of the inspection activity shall be compiled and added to the external provider delivery paperwork. The external provider shall perform the 100% inspection and publish their results for three consecutive lots following the corrective action. HS Marston shall monitor and validate the external provider results as deemed appropriate.

HSM shall implement a tightened goods receiving inspection process where a "Quality Alert" status is applied to the purchased item. The alert shall be a minimum of three consecutive months or individual delivery batches as determined by the Quality and Purchasing departments to ensure the best coverage of parts.

The alert shall detail what receiving inspection activities shall be required in order to validate the external provider corrective actions.

Repeat concerns reaching HSM, the external provider may incur penalty charges as detailed in correspondence from the Purchasing Manager.

In the event of defective supplied goods contaminating HSM stock parts the external provider shall be required to stock sort on HSM site. In cases where the external provider cannot support this activity, HSM reserve the right to engage additional resources at the external provider cost, to implement a stock and work in progress (WIP) part inspection sufficient to eliminate all suspect parts from the company inventory.

Where repeat concerns are incurred HSM reserve the right to implement 100% goods receiving inspection at HSM site for extended periods necessary to regain confidence in goods received components. This activity shall be at the external providers cost.

In certain cases where it is deemed more appropriate based on the significance of the escape and the criticality of the components involved, HS Marston shall request the external provider to implement a Customer Eyes Over check (CEO) within the external provider premises. The CEO activity shall be via the Collins preferred organisation

Verify Europe Ltd.

8 Clarendon Drive,

Wymbush

Milton Keynes, MK8 8ED

England, UK

www.verify-europe.com

+44 (0) 8456 432 501 office

The CEO activity shall be at the suppliers cost, Collins have discounted rates agreements with Verify Europe which suppliers may be able to take up. Any alternative proposed CEO arrangements shall be approved by HS Marston Aerospace Ltd, prior to implementation.

HS Marston Aerospace Limited

a Collins Aerospace Company

Document Number: QA1019	Sheet 14 of 39	Date: 08-10-2019	Issue: 6
--------------------------------	------------------------------	-------------------------	-----------------

Where the external provider attends HSM site to conduct stock WIP quality verification checks, the external provider must ensure their operative, have as a minimum, CE marked safety shoes, CE marked eye protection and suitably clothed commensurate with a manufacturing environment. External provider personnel shall not be allowed to deviate from the stipulated work areas and shall be accompanied by a HSM escort when moving throughout the site. Supplier's personnel who arrive on site unsuitably attired shall be turned away and HSM reserve the right to introduce outside contract support. All visitors shall report to reception with a photographic form of ID and where appropriate details of Nationality, otherwise site access may be refused.

7.3 CONTROL OF FOD

HSM operate a strict zero Foreign Object Debris (FOD) requirement on all purchased items. The external provider shall conduct all steps necessary within their facilities to prevent and inspect for contamination of product and raw materials within their manufacturing processes. The external provider shall package and protect the finished supplied item as necessary to eliminate damage to the item and prevent the ingress of foreign objects debris. Standard practice is to use protective caps and bungs as appropriate to seal off all open voids.

Ref HSM / ME1168 Handling, Storage, Packaging, Preservation and Delivery.

HS Marston Aerospace Limited

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Document Number: QA1019	Sheet 15 of 39	Date: 08-10-2019	Issue: 6
--------------------------------	------------------------------	-------------------------	-----------------

SECTION 8

8.0 EXTERNAL PROVIDER PROGRESSION AND DEVELOPMENT

HSM actively encourages the development and continuous improvement within the external provider supply base. HSM shall implement development working party meetings with key external providers where their product, processes and services has a significant involvement with key, progressive, aircraft platforms.

As a minimum requirement, HSM external providers should have in place or have a plan to implement a formal Quality Clinic system. The Clinic should have a physical location and be sufficiently equipped to investigate and determine defects and returned rejects with the view to prevent recurrences.

The purpose of the Clinic system is to measure corrective and preventative performance in a clear and concise way against Key Business Metrics and to use improvement tools to increase quality performance.

As a minimum all customer returned items should be logged and routed through the Clinic with analysis, actions and mistake proof levels recorded.

The external provider shall use root cause analysis methodologies to identify the real issue relating to the defect. HSM recommend a detailed step by step approach using DIVE (Define Investigate, Verify, Ensure) or DMAIC (Define, Measure, Analyse, Improve and Control).

HS Marston Aerospace Limited

a Collins Aerospace Company

Document Number: QA1019	Sheet 16 of 39	Date: 08-10-2019	Issue: 6
--------------------------------	------------------------------	-------------------------	-----------------

SECTION 9

9.0 PRODUCT IDENTIFICATION AND TRACEABILITY

The external provider shall maintain traceability of all material purchased and used in the furtherance of all contracts for HSM. This will include traceability to material supplier, batch/lot number and incoming certification from the material supplier.

Where HSM permitted third tier sub-contracting occurs, the external provider will maintain traceability to the sub-contractor, and also ensure that the sub-contractor maintains traceability to any material either supplied by the main external provider or purchased by the lower tier sub-contractor.

Where applicable, and/or where special processes or testing is involved (eg welding, brazing, radiology), the external provider shall maintain traceability to process equipment, test equipment, personnel and associated records.

HS Marston Aerospace Limited

a Collins Aerospace Company

Document Number: QA1019

Sheet 17 of 39

Date: 08-10-2019

Issue: 6

SECTION 10

10.0 CHANGE CONTROL

HSM must be notified in advance and in writing of any significant proposed changes by the external provider in their manufacturing method/techniques or change in location of its products. Changes which are deemed significant are:-

- Change in location of the suppliers manufacturing facility.
- Change in source of the suppliers raw material purchase.
- Change in manufacturing process method/technique used by the supplier.

HSM retain the right to veto any proposed changes to the manufacture of its products where a risk to the product quality cannot be mitigated by the supplier. HSM may request addition testing, validation checks and

increased inspection frequencies to be implemented for the duration of the change and extended periods thereafter where deemed necessary.

The external provider shall not proceed without HSM acceptance. HSM may require its customer's approval before authorising such change.

Suppliers intending to implement a change shall advise the commodity buyer who will send out a HSM/Q116 document for the initial proposal submission.

All changes described above shall require a revised FAIR, (First Article Inspection Report) as part of the suppliers change process submission. Where deemed necessary by HSM, a Quality Control Plan may be required to step out the changed manufacturing stages with details of quality controls and reactions plans for each stage concerned. The external provider shall complete the HSM proforma HSM/Q 144.

Suppliers who are required to supply parts under UPPAP, a resubmission of their UPPAP data will be required for changes detailed above.

N.B. Subject to Collins flowed down requirement, where invoked under PO should follow COL PRO-0008-00 formats.

HS Marston Aerospace Limited

a Collins Aerospace Company

Document Number: QA1019	Sheet 18 of 39	Date: 08-10-2019	Issue: 6
--------------------------------	-----------------------	-------------------------	-----------------

SECTION 11

11.0 FIRST ARTICLE SAMPLES

The external provider shall receive notification from HSM Purchasing Department via purchase order that a First Article Inspection Report (FAIR) is required on new and up issue supplied parts. The external provider shall be responsible for establishing FAIR requirements for gap in manufacture of greater than two years and any other internal changes as detailed below.

Unless otherwise stated the external provider shall utilise the First Article Inspection (FIA) format as detailed in SAE AS9102. HSM customers within the Collins group companies require a specific Form 3 format. Suppliers are required to ascertain whether the modified format is required. If in doubt ask!

The external provider shall provide FAIR items that are fully representative of the first production run.

The external provider shall individually mark each part so-as-to correspond with each FAIR report. A digital photograph of the part marking shall be included with each FAIR submission. The FAIR report shall be a signed off, hard copy document format, accompanying the FAIR component delivery. The FAIR report shall be included within the component(s) delivery packaging and be safeguarded from damage.

External provider's FAIR submission shall include relevant copies of HSM purchase orders, together with a copy of the external providers C of C and traceable raw material mill certificates to the original producer.

Blank columns in the FAIR format shall be annotated as N/A. In this context N/A shall be defined as None Applicable.

HS Marston requires visibility of the suppliers manufacturing process methods as part of the FAIR approval. The external provider shall provide copies of the shop travelers, and process flow diagrams, etc, to show details of the manufacturing, testing and inspection stages used in the production of the FAIR item. This shall include out sourced processes. Where Intellectual Property concerns arise, HS Marston will agree a NDA with the supplier. In addition, where specifically sensitive control values to a process apply, these specific values can be redacted, the document shall remain legible to the extent the process step/stages and test / inspection processes can be understood.

External provider FAIR's shall be required for:-

1. A change in design affecting fit, form, or function of the part.
2. A change in manufacturing source, process, inspection method(s) location, tooling or materials which can affect fit, form or function.
3. When required as part of corrective action for a part number with repetitive rejection history, typically a part with three consecutive rejections.
4. A change in numerical control program or translation of such to another media.
5. A natural or man – made occurrence which may adversely affect the manufacturing process.
6. A lapse in the external provider's production of two years.
7. As specified by the customer.

The external provider should not supply further product until the part has been formally accepted by HSM.

HS Marston Aerospace Limited

a Collins Aerospace Company

Document Number: QA1019	Sheet 19 of 39	Date: 08-10-2019	Issue: 6
--------------------------------	-----------------------	-------------------------	-----------------

The suppliers Quality Representative shall receive notification of the supplied FAIR's PASS/ FAIL status from HSM External provider Quality Engineer. Where a FAIR is deemed acceptable HSM Inspection representative shall sign off the FAIR front sheet. The External provider Quality Engineer shall send the signed off front sheet to the external provider with a copy forwarded to the commodity buyer for information.

HSM shall monitor as necessary the subsequent three consecutive deliveries after the approved FAIR item to verify continued acceptance.

N.B. FAIR reports when compiled as part of a UPPAP submission shall include a supplementary dimensional report (AS9102 form 3) with data from four (4) additional randomly selected parts.

11.1 CASTING FIRST ARTICLE SAMPLES

In addition to the FAIR reporting requirements detailed in section 11.0, casting components, where deemed necessary, shall have cut up component measurements taken to establish all hidden wall thickness; web thicknesses; internal gallery wall thickness; etc, so as to ensure the minimum wall thickness criteria is met as detailed on the HSM published drawing. The cut up sample shall be provided to HSM in addition to the supplier's FAIR submission part.

Note. If the external provider believes there is insufficient wall thickness detail on the released HSM drawing the external provider must contact HSM for clarification prior to FAIR submission.

Casting components shall be subject to periodic layout inspection procedures as detailed in section 12.

11.1.1 PRESSING, FORMING & SPINNING FIRST ARTICLE SAMPLES

In addition to the FAIR reporting requirements detailed in section 11.0, components manufactured by metal forming, spinning and pressing techniques shall have a wall thickness assessment included in the external provider FAIR document pack. The wall thickness assessment shall detail measured results across the component sufficient to establish the maximum and minimum amount of metal thinning created from the spinning / pressing / forming process. The wall thickness assessment report shall include a sketch/picture of the component with written wall thickness results at the measurement point. The FAIR report detail shall include the original raw sheet material, (actual) gauge thickness, so that a metal thinning percentage can be derived from the submitted data when required.

11.1.2 MACHINED FIRST ARTICLE SAMPLES

In addition to the FAIR reporting requirements detailed in section 11.0, machined components whether from solid or machined castings and forgings, where the drawing/specifications shows features which are inaccessible to measurement, the external provider should take all necessary steps to verify the features are conforming to specifications and fully report the measurements in the FAIR report. Where necessary, separate cut up sections shall be taken by the external provider to access the areas required to establish either the product and /or the CNC programme configuration is conforming. The cut up sample(s) must be forwarded to HS Marston in addition to the FAIR submission part(s) and clearly marked up as cut up samples.

11.1.3 ROLLS ROYCE MAKE TO PRINT PART NUMBERS (SABRe 2 chapter B)

External providers making Rolls Royce part numbers shall be Rolls Royce approved. Rolls Royce approved suppliers as part of their FAIR submission process shall obtain Rolls Royce FAIR approval direct prior to shipping the FAI component and FAI documentation pack to HS Marston. The external provider shall submit the Rolls Royce "First/Last

HS Marston Aerospace Limited

a Collins Aerospace Company

Document Number: QA1019	Sheet 20 of 39	Date: 08-10-2019	Issue: 6
--------------------------------	------------------------------	-------------------------	-----------------

Article Inspection Report Approval Form” to HS Marston with the stage 1 authorised external provider signatures and stage 2 Rolls Royce approval signatures. HS Marston shall not accept deliveries of parts without receiving the suppliers FAI document pack including a signed off Rolls Royce approval.

SECTION 12

12.0 LAYOUT INSPECTION

For HSM suppliers who regularly delivered items the interval of full detailed inspection normally covered in a FAIR submission may go unreported for several years. Therefore, suppliers of regularly delivered components of critical or complex items are required to perform a layout inspection for HSM designed components.

The layout inspection shall include all dimensions drawing notes /features etc, indicated on HSM released drawing. This requirement is not applicable to standard proprietary catalogue parts similarly to that stated in AS9102 or components of low complexity. HSM Supplier Quality shall define those part numbers applicable.

The layout inspection shall include a marked up drawing with measured results detailed on the form 3 format of the AS9102 stipulated documents.

The Layout Inspection shall be performed at 3 year intervals after the initial FAIR submission with the results attached to the next scheduled delivery C of C release paperwork. If discrepancies are discovered the external provider shall formally communicate all none conformances via the external provider concession process as detailed in section 7.

12.1 Distributed parts suppliers shall be subject to providing measurement inspection reports together with their delivery paperwork. Where the part has been sourced from an alternative external provider or there has been an up issue in the component part design from the item manufacturer. The inspection report shall detail all measured results for the catalogue/ brochure part features. The distributor external provider shall assess and approve the results and publish these results with the first delivery to HS Marston and shall not supply ongoing deliveries until HS Marston has given approval for the changes.

HS Marston Aerospace Limited

a Collins Aerospace Company

Document Number: QA1019

Sheet 21 of 39




Date: 08-10-2019

Issue: 6

SECTION 13

13.0 PROCESS CERTIFICATION

HSM suppliers shall be required to perform Statistical Process Control (SPC) where indicated by special critical to Quality (CTQ) drawing characters or as requested by the customer. HSM utilises three identifying CTQ characters on its engineering drawings and subsequent instructions.

1. Where the symbol  is shown within HSM documentation this signifies a Critical Characteristic.
2. Where the symbol  is shown within HSM documentation this signifies a Major Characteristic.
3. Where the symbol  is shown within HSM documentation this signifies a Flight Safety Characteristic.

The external provider shall be required to develop a process certification activity on all of the above characters.

Process certification requires the external provider to develop as a minimum:-

1. A process Flow Chart – detailing all stages of the process connected with the CTQ feature.

This shall require a sequential numbering of each step in the process from raw material delivery through manufacturing and inspections to the final despatch of goods

2. Create a quality Control Plan corresponding to each number detailed in the above process flow chart.

This shall require details of the activity and machines used to perform the process step, what the features are being checked or evaluated, how they are evaluated and what equipment is being used and how frequent the check or evaluation is being performed. Also, what corrective actions that will be taken, should the evaluation identify non-conformances.

3. Identify within the control plan each CTQ feature, by placing a suitable character next to the step identifying its manufacture.

At the appropriate step on the control plan draw in the required CTQ character against the drawing feature being measured.

4. Identify within the control plan the type of SPC used to determine statistical analysis and the target Cp & Cpk value.

At the step identified above state the method of measurement and the type of control charts being used to monitor the CTQ feature. NB, a Cpk of 1.33 is expected. See ME1108 for additional information and for 100% inspection option, where appropriate.

5. Measuring equipment that is to be used to verify a CTQ feature must first be evaluated using gauge Repeatability and Reproducibility (Gauge R&R) techniques so as to establish the equipment suitability.

Each piece of measuring equipment used to evaluate a CTQ must undergo an R&R study. This is performed by three individuals measuring identical parts. A statistical assessment of the results will indicate whether the gauge R&R percentage is within the desired limits. Less than 10% is expected.

HS Marston Aerospace Limited

a Collins Aerospace Company

Document Number: QA1019

Sheet 22 **of** 39

Date: 08-10-2019

Issue: 6

For new projects, Hamilton Sundstrand (HS) and HSM reserve the right to audit the external provider production process and verify the Process Certification activities. Ref HS/HSM production readiness review check list –see example in Appendix 2.

Further details of Process Certification requirements Ref to HSM procedure requirements COLQR-09.1 & HT0985 & HT0990 & HSC16199. HSM support and assistance regarding these standards can be obtained from HSM Manufacturing Engineering.

HS Marston Aerospace Limited

a Collins Aerospace Company

Document Number: QA1019	Sheet 23 of 39	Date: 08-10-2019	Issue: 6
--------------------------------	------------------------------	-------------------------	-----------------

SECTION 14

14.0 EXTERNAL PROVIDER MANUFACTURING PROCESS CONTROL

HS Marston suppliers are required to declare all manufacturing process techniques intended to be used to fulfil the purchase order received.

For example all special processes shall be declared as part of the suppliers order acceptance process. Suppliers who intended to use special process as part of their manufacturing method shall be required to use only NADCAP approved sources unless otherwise waived in writing by HS Marston under COL-ERK-0003-00.

Examples of special Process are:-

- Welding – all techniques for example, TIG, MIG, laser, plasma, etc.
- Heat Treatment - all techniques.
- NDT - all techniques.
- None conventional machining - all techniques for example EDM, chemical etching, laser cutting plasma cutting.
- Chemical coating & surface conversion processes – all techniques.
- Surface enhancement processes – shot peening.

The first tier external provider to HS Marston shall be responsible for establishing what manufacturing process techniques are used by their sub tier level suppliers required to fulfil the order received. These techniques shall be declared to HS Marston as part of the order acceptance.

Details of all manufacturing techniques and NADCAP approvals shall be included in the external provider's FAIR /UPPAP report.

HS Marston Aerospace Limited

a Collins Aerospace Company

Document Number: QA1019

Sheet 24 of 39

Date: 08-10-2019

Issue: 6

SECTION 15

15.0 FROZEN PROCESS

HS Marston operates a frozen process procedure where parts or part features are designated with a star icon identifying a Flight Critical status ★

Product designated as Flight Critical shall require the manufacturing process to be fully detailed, identifying all process sequences of the part manufacture together with inspection and test stages. This shall include all out sourced processes and receiving inspection and test as applicable.

The external provider's written product manufacturing process steps/stages, shop travelers inspection and test techniques etc, shall be provided to HS Marston along with the FAIR submissions.

The details of which shall be assessed and approved as part of the FAIR approval.

The product manufacturing process steps/stages, shop travelers inspection and test techniques shall be annotated as Flight Critical.

The external provider shall not make changes to the approved frozen process without HS Marston written approval.

There may be circumstances where HS Marston shall adopt the Frozen Process and approval control methods for none Flight Critical parts/ features. Where these circumstances occur the external provider shall be notified as part of the purchase order requirement. The controls and published details required shall apply equally as if the part is deemed Flight Critical.

External provider processes shall be subject to HS Marston periodic Control Build Review (CBR) site audits to ascertain the current process is maintained in comparison to that of the original FAIR approved process.

HS Marston Aerospace Limited

a Collins Aerospace Company

Document Number: QA1019	Sheet 25 of 39	Date: 08-10-2019	Issue: 6
--------------------------------	------------------------------	-------------------------	-----------------

SECTION 16

16.0 VENDOR RATING

HSM operates a vendor rating system on its external provider base.

Vendor Rating shall be via a monthly published External provider Performance Score Card for its most significant suppliers and will be based on:-

- Defective Product Quality, measured in Parts Per Million (ppm) and events for low volume suppliers.
- On time Delivery percentage (OTD%).
- Overdue Corrective Action Reports (CAR's), over target period 30days.
- Incomplete or missing First Article Inspection Reports (FAIR).
- External provider Concession Requests, (external provider manufactured defective product).

The published score card will calculate an overall rating of the suppliers performance. The value is based on ideal performance with greater weighting for OTD% and Quality ppm performance.

The suppliers overall weighted performance shall be indicated by a speedometer type icon, where 100% signifies ultimate performance achieved. Ref format in Appendix 4.

All sub contract suppliers are expected to achieve parts per million calculation of less than 500ppm, with an overall score card rating value of >80%.

16.1 Collins EXTERNAL SUPPLIER GOLD

For suppliers who are actively working on/or towards the Collins Supplier Gold programme, shall be expected to achieve a significantly higher performance. For Collins Supplier Gold award, suppliers must achieve a qualifying period of 12months with zero quality escapes (0 ppm) and 100% OTD and have a proven LEAN manufacturing culture, visual factory techniques, ongoing demonstrable continuous Improvement and highly presentable premises.

On-going performance, post Supplier Gold awarded suppliers, will be expected to maintain better than 250ppm and 95% OTD, or best in class for each assessment period (12months).

Best in class is measured across other Collins Gold Awarded Suppliers for each specific commodity group.

16.1.1 CALCULATED EXTERNAL PROVIDER ppm.

External provider ppm shall be calculated:

$$\text{Ppm} = \frac{\text{Number of parts rejected in a time period.}}{\text{Number of parts manufactured in the same time period}} \times 10^6$$

External providers with a performance score of greater than 500ppm shall be expected to demonstrate an on-going improvement with a positive trend towards <500ppm.

HS Marston Aerospace Limited

a Collins Aerospace Company

Document Number: QA1019	Sheet 26 of 39	Date: 08-10-2019	Issue: 6
--------------------------------	------------------------------	-------------------------	-----------------

Suppliers with a sustained performance score greater than 500ppm where no discernable improvement is recognised the supplier's senior management team shall be requested to present a satisfactory improvement plan detailing all necessary actions and timings. This plan shall be reviewed by the Purchasing Manager and Head of External provider Quality. HSM shall communicate to the external provider either via a KPI review format and or via a formal letter. The supplier's ongoing performance shall be reviewed via routine KPI review sessions between the external provider and HSM.

Where no improvement in the suppliers performance is made or where the suppliers recovery/improvement plan has failed and no effective commitment can be demonstrated HSM may remove the external provider from the QASL and deactivating their SAP approvals, terminating further shipment of parts or services.

HS Marston Aerospace Limited

a Collins Aerospace Company

Document Number: QA1019	Sheet 27 of 39	Date: 08-10-2019	Issue: 6
--------------------------------	-----------------------	-------------------------	-----------------

SECTION 17

17.0 EXTERNAL PROVIDER SURVEILLANCE AUDITS

17.1 HSM operates External Provider Surveillance Audits on suppliers who play a key role in HSM performance. External provider audits shall be based on external provider's vendor rating, criticality of component and annual product spend.

HSM shall utilize an MPR (Manufacturing Process Review) format to assess the external providers ability to provide a quality product and demonstrate the compliance to a laid down quality system.

8 Key sections to the MPR:

- 1] External provider Approval Status.
- 2] Purchase Order review.
- 3] External provider contract review process.
- 4] External provider manufacturing route control documentation.

- 5] External provider raw material validation process.
- 6] External provider manufacturing process review.
- 7] Product assessment audit.
- 8] External provider packing and dispatch process review.

Ref Audit format example see Appendix 3.

17.2 Any findings identified during the External provider Surveillance Audit shall be the subject of corrective and preventive actions.

External provider closeout actions from the Surveillance Audit shall be completed within 60 days of the audit date. Completed Corrective and Preventive actions shall be forwarded to the HSM Supplier Quality Engineer.

Failure to respond and correct any findings made during a Surveillance Audit may lead ultimately to the external provider being removed from the HSM QASL and deactivating their SAP approvals.

HS Marston Aerospace Limited

a Collins Aerospace Company

Document Number: QA1019	Sheet 28 of 39	Date: 08-10-2019	Issue: 6
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SECTION 18

18.0 HEALTH & SAFETY COMPLIANCE

HSM is committed to ensuring the welfare of its employees and visitors alike.

Suppliers who supply HSM with manufacturing process chemical/substances etc must ensure that all purchased chemicals/substances are supplied with a current Material Safety Data Sheet (MSDS) detailing necessary handling, storage, disposal and emergency treatments required, together with any hazardous effect of exposure.

All substances and preparations supplied to HSM or used in the manufacture of articles supplied to HSM must be compliant with the REACH regulations (Registration, Evaluation, Authorisation & Restriction of Chemicals).

Many substances that have been used traditionally in Aircraft components may become unusable in the forthcoming REACH regulations. HS Marston Design Engineering shall be working with its customers to establish alternative substances. Where the external provider believes a REACH restricted substance is being used post legislation removal date, the external provider is requested to inform HS Marston immediately via the purchasing contact and to hold deliveries pending a Design Engineering decision. For further information on REACH go to, www.hse.gov.uk/reach.

HSM must be informed of any articles supplied that contain substances of very high concern at greater than 0.1% w/w.

MSDS documents and necessary COSHH details must be supplied with each delivery to site.

SECTION 19

19.0 EXPORT CONTROL

HSM suppliers are required to consider the products they supply to HSM, If the article is identified as Export Controlled by HSM then the external provider must restrict their communications of data strictly between the suppliers organization and HSM. HSM will identify within its published documents those items under export control restrictions.

If there are any concerns then advice should be sought from either Export Control or a local BAER (Business Area Export Representative) within HSM.

HS Marston Aerospace Limited

a Collins Aerospace Company

Document Number: QA1019	Sheet 29 of 39	Date: 08-10-2019	Issue: 6
--------------------------------	------------------------------	-------------------------	-----------------

SECTION 20

20.0 Collins - UPPAP

Collins require prime suppliers (HSM) and sub tier levels to implement UPPAP (Collins Production Part Approval Process) for new and changed design versions required for Collins group member entities.

Where called out by purchase order, the HSM external provider shall be required to compile a data pack supporting the UPPAP submission.

The minimum data pack shall consist of:-

- Process flow map for the complete manufacturing process of the components or component family.
- PFMEA (Process Failure Mode and Effect Analysis) for each step in the flow map.
- Quality Control Plan for each step in the flow map.
- PRS (Process Readiness Study) of the manufacturing process cell layout.
- Initial processes study on critical to quality and/ or key product characteristics (where defined).
See section 13.
- Measurement gauge study of gauge R&R (Repeatability and Reproducibility) for each key characteristic defined. See section 13.
- Dimensional report and marked up drawing. See FAIR requirement section 11.
- Material certification, raw material approval. See FAIR section 11.
- Part marking Approval.
- Packing, preservation, and labelling requirement.

For Design – Make suppliers, such suppliers are required to create DFMEA “as part of their design processes. The external provider shall make such DFMEA” available for review by HS Marston Design Office representative.

To assist suppliers in fulfilling the above requirements HSM has produced preset formats to aid the compilation of the data required. These formats can be issued to the external provider as required.

HS Marston Aerospace Limited

a Collins Aerospace Company

Document Number: QA1019	Sheet 30 of 39	Date: 08-10-2019	Issue: 6
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SECTION 21

21.0 RAW MATERIAL CONTROL

HS Marston suppliers are required to control the identification, compliance and traceability of raw materials delivered to HS Marston and those incorporated into HS Marston purchased product.

The external provider shall provide raw material (Manufacturing Mill Certificate) documents with their delivery and C of C paperwork as required under HS Marston purchase orders. Traceability of the Material Certificates shall extend down the supply chain to the original Mill certificate and all processors and form converters involved in the finished received material.

The external provider shall have / implement a process where all applicable Material Mill Certificates details are cross referenced to the HS Marston purchased order detail, drawing and / or flowed out specifications. The details shall match each other in all applicable aspects, with particular attention being made to specification nomenclature, form, condition, size, chemical Analysis, and mechanical properties.

Where deviation exists between material Mill Certificates details and HS Marston flowed out requirements. The external provider **shall not** supply product without first receiving formal acknowledgement and approval by HS Marston. The external provider shall raise a concession request as detailed in 7.2.1, and comply with any verification actions deemed necessary flowing out from the concession process.

N.B. HS Marston reserves the right to restricted supplies to certain approved Raw Material Manufacturing Mills. Where this stipulation is in effect this requirement shall be flowed out to the external provider via the purchase order requirements. External provider changes in restricted Mills must be via a formal HS Marston acknowledgement /approval.

HS Marston Aerospace Limited

a Collins Aerospace Company

Document Number: QA1019

Sheet 31 of 39

Date: 08-10-2019

Issue: 6

SECTION 22

22.0 CONTROL OF FRAUDULENT COUNTERFEIT MATERIAL

The supply of material, product and services shall be strictly controlled in respect to eliminating fraudulent counterfeit materials, components, parts and services, herein referred to as goods. HS Marston shall require all external providers to establish /implement sufficient controls at their premises and sub tier levels with respect to proving the origin of their goods is from the original and authorized manufacturers. This requirement is particularly relevant to (but not limited to) HS Marston's distributed product suppliers.

External providers shall not furnish fraudulent counterfeit goods to HS Marston.

Fraudulent Counterfeit or suspected fraudulent counterfeit goods shall be deemed none conforming and placed into quarantine by the external provider. Where the external provider has doubts as to the origin of the goods, the external provider must first quarantine the items and inform HS Marston immediately.

The external provider is responsible in establishing the traceability of product/materials and ensuring they are sourced from authorized manufacturers prior to delivery into HS Marston. External providers that HSM have identified as a risk to supplying counterfeit parts shall provide a counterfeit avoidance and detection policy as appropriate. These policies shall be forwarded to HS Marston for review and continued awareness.

External Providers shall be expected to work with HS Marston, Collins Group Member companies and any Government Regulatory Organizations as necessary to establish the provider of such fraudulent counterfeit goods and prevent proliferation of such goods to other areas of the Aerospace Industry.

**Counterfeit Goods
PREVENTION IS KEY.**

Procure only from Authorised Providers and
always know your extended source of supply.

Know your Supplier - Know your parts

Useful Web Site for monitoring US connected "UPN" Unapproved Part Notification.
Go to the web site to see publications of confirmed UPN:-

<https://www.faa.gov/aircraft/safety/programs/sups/upn/>

HS Marston Aerospace Limited

a Collins Aerospace Company

Document Number: QA1019

Sheet 32 of 39

Date: 08-10-2019

Issue: 6



SECTION 23

23.0 PRODUCT SAFETY.

External providers to HS Marston shall ensure their internal manufacturing processes techniques and services shall not create a state where the design or intended purpose of the purchased item shall pose an unacceptable risk of harm to HS Marston employees or damage to HS Marston property.

The external provider shall ensure their process and techniques disclosed under FAIR submission are maintained and that their employees are made aware of their contribution they have in the continued product conformance and resulting product safety.

The external provider shall not make changes to their declared process and techniques without prior approval from HS Marston.

Where an external provider discovers a situation where the Product Safety has been affected to the detriment of HS Marston employees and property the external provider shall inform HS Marston Supplier Quality Department Immediately and quarantine all affected items.

HS Marston Aerospace Limited

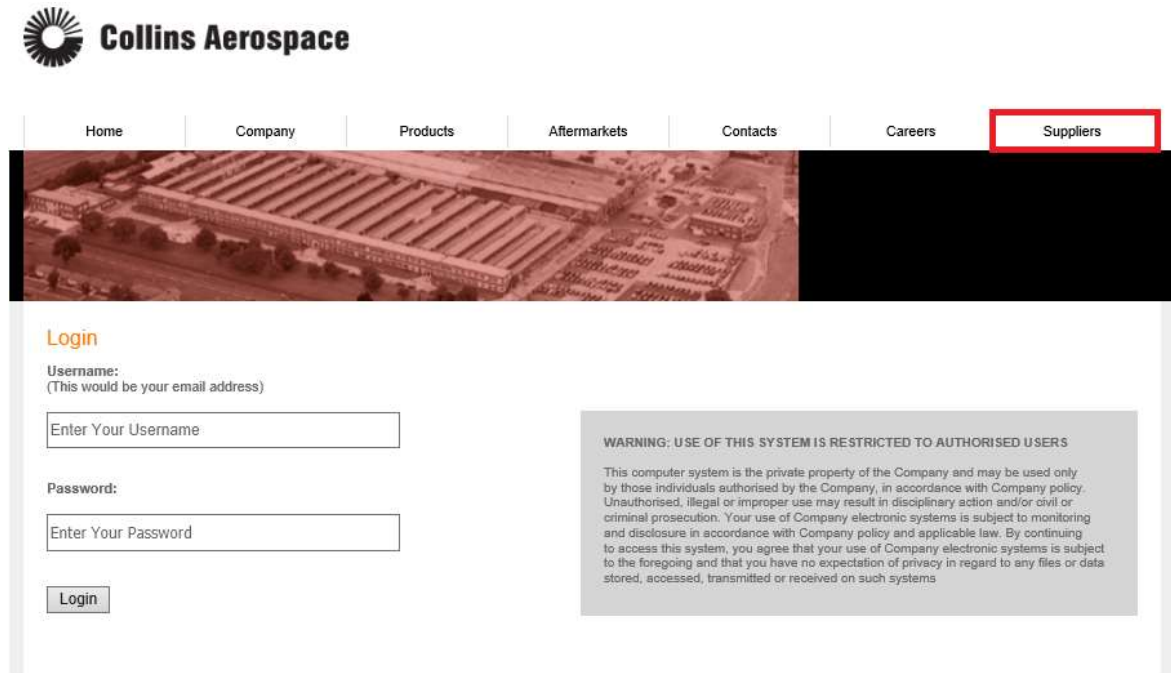
a Collins Aerospace Company

Document Number: QA1019	Sheet 33 of 39	Date: 08-10-2019	Issue: 6
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SECTION 24

24.0 COMPANY WEBSITE ACCESS FOR SUPPLIER INFORMATION.

HS Marston has updated its website to make it more interactive and informative for the Aerospace supplier. The website shall identify a "Suppliers" tab which will provide access to certain forms and procedures. Also it is the intention to use the website for reporting supplier performance. Therefore for those suppliers being monitored and in receipt of a monthly score card report shall be able to access the latest publication via a controlled password access. Please contact HS Marston Supplier Quality dept for details on how to access the score card details.
Web Site address, www.hsmarston.co.uk



The screenshot shows the Collins Aerospace website navigation menu with the 'Suppliers' tab highlighted in red. Below the menu is a large image of an industrial facility. The main content area features a 'Login' section with the following elements:

- Login** (orange text)
- Username:** (This would be your email address)
- Input field: Enter Your Username
- Password:**
- Input field: Enter Your Password
- Button: Login

To the right of the login form is a grey warning box:

WARNING: USE OF THIS SYSTEM IS RESTRICTED TO AUTHORISED USERS




This computer system is the private property of the Company and may be used only by those individuals authorised by the Company, in accordance with Company policy. Unauthorised, illegal or improper use may result in disciplinary action and/or civil or criminal prosecution. Your use of Company electronic systems is subject to monitoring and disclosure in accordance with Company policy and applicable law. By continuing to access this system, you agree that your use of Company electronic systems is subject to the foregoing and that you have no expectation of privacy in regard to any files or data stored, accessed, transmitted or received on such systems

HS Marston Aerospace Limited

a Collins Aerospace Company

Document Number: QA1019	Sheet 34 of 39	Date: 08-10-2019	Issue: 6
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Appendix 1
CAR – Corrective Action Report HSM/Q121

	 <h2 style="margin: 0;">HS Marston Aerospace Limited</h2> <p style="font-size: small; margin: 0;">Wobaston Road Ferdhouses Wolverhampton WV10 6QJ T: +44(0)1902 572777 F: +44(0)1902 572888</p> <h3 style="margin: 0;">CAR - CORRECTIVE ACTION REPORT</h3>	
Page 1 of 2		
IMPORTANT: Military parts or dual use Military/Civil parts will be subject to either UK and or US Export Controls.		
Supplier -		QN No.
Supplier Contact.	Position.	Date Raised.
Part Description.		C of C No.
Part Number.	Drg No.	Lot No.
Reason for rejection:		Purchase Order No.
		Qty Rejected.
1] Details of defect:		
EXAMPLE		
Export Control?		
2] Supplier Containment Actions: (as appropriate)		
Retrieve parts in transit.		Check parts 100% at Despatch
Check 100% Work In Progress		Check 100% at Sub-tiers
Check 100% Parts in Stores		Is the Problem contained?
		Yes No
Additional Containment Comments: (Where required)		
N.B Supplier <u>must</u> consider similar parts or part families when containing suspect parts.		

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HSMQ121/8/12.15

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Document Number: QA1019	Sheet 35 of 39	Date: 08-10-2019	Issue: 6
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Appendix 1. CAR – Corrective Action Report Continued..

Page 2 of 2

CAR - CORRECTIVE ACTION REPORT

3] Root cause assessment of defect: **DMAIC** Define/Measure/Analyse/Improve/Control - the problem

i Define the problem: _____

ii Assess how often it occurs, and when, where it occurred: _____

NB. Include additional information as required E.g. Tabulated/Graphical details etc.

iii Hold a TEAM review and discuss the likely causes of the problem: (if not clear as to the cause or if it is a repeat concern)

People Effects

Explain Cause(s)

iv Interrogate most likely chosen cause from 3 above by asking 5 Why's (problem TEAM to ask why it happened to each answer agreed on)

	Likely cause 1	Likely cause 2	Likely cause 3
1st Why	_____	_____	_____
2nd Why	_____	_____	_____
3rd Why	_____	_____	_____
4th Why	_____	EXAMPLE	_____
5th Why	_____	_____	_____
Conclusions:	_____	_____	_____

4] Corrective & Preventative Actions taken by the supplier to eliminate its recurrence:

Supplier Quality Representative to detail here, actions taken to fix, and eliminate the problem recurring.
NB. Supply additional documentary evidence as attachments - E.g. revised Control plans, updated work instructions/ awareness photographs etc. Consider other similar part/frees / variants.

5] Verify Corrective & Preventative Actions taken:

Supplier Quality Representative to detail here, actions taken to verify the improvements have been effective.
NB. Supply additional documentary evidence as attachments - E.g. Audits performed, follow up checks conducted, confirmation assessments Process identification checks etc.

6] Supplier Completion Declaration:

I the undersigned have established the most likely cause of the quality concern and through investigations have implemented corrective actions necessary to prevent any recurrence.

Mistake proof level: Level 1 = 100% mistake proof, Level 2 = Active warning, Level 3 = Passive warning.

Completed by: Print name _____ Signed _____ Position _____

Completion date: _____

Return to one of HS Marston Supplier Quality Team members below:
mark.billingsley@hsmarston.co.uk / laurie.page@hsmarston.co.uk

7] HS Marston Quality Concern Close Out Review: To be completed by HS Marston Supplier Quality dept.

Mistake proof level confirmed: Level 1 = 100% mistake proof, Level 2 = Active warning, Level 3 = Passive warning.

Accepted: Yes / No _____

Approved by: _____ Date: _____

HSM/Q121/5/12 08


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Document Number: QA1019	Sheet 36 of 39	Date: 08-10-2019	Issue: 6
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Appendix 2

HS Marston Process Certification Readiness Audit COLQR9.1 form2.



Collins Aerospace

Process Certification Assessment / Audit Form

COMPANY NAME: _____ UTC SUPPLIER CODE: _____
 STREET: _____ TELEPHONE: _____
 CITY, STATE, ZIP: _____ DIVISION OFF: _____
 DUNS & RADSTREET NUMBER: _____

UTC member: Aftermarket Operations UTAS/AS UTC/PCSS Pratt & Whitney
 Part & Whirley Canada Sikorsky Aircraft SIS UTC Corporate

Persons contacted: _____ Title: _____

Assessment Audit Performed by: _____ Date: _____
 UTC member: _____ Aftermarket include your UTC Division

SUMMARY RESULTS

Status: GREEN Acceptable YELLOW Capable/CActions required RED System not capable

Red must be checked for any finding on a No-Red question.
 YELLOW or RED must have documented corrective action and close out date.

If RED, does Supplier:

a. Currently perform 100% inspection of UTC Member defined WCA? Yes No
 b. Intend to implement process certification per UTCQR-09-17? Yes No (No = RED)

Comments: _____

UTCQR Form 2 (04/01/14) 1 of 5
 This document contains no technical data subject to the EAR or the ITAR (Review for technical data is required once this form is filled in, which may require a change in Jurisdiction & Classification)
 Include Export Control Statements as directed by the Business Area Export Representative (BAER):

Reference	Yes	No	N/A
UTCQR-09.1 4.4.1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
UTCQR-09.1 4.3.1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A59103 A.3.1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
UTCQR-09.1 4.4.1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
UTCQR-09.1 4.3.2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A59103 A.2.1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A.2.2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A.2.7	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
UTCQR-09.1 4.1.1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

EXAMPLE


UTCQR Form 2 (04/01/14) 2 of 5
 This document contains no technical data subject to the EAR or the ITAR (Review for technical data is required once this form is filled in, which may require a change in Jurisdiction & Classification)
 Include Export Control Statements as directed by the Business Area Export Representative (BAER):

HS Marston Aerospace Limited


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Document Number: QA1019	Sheet 38 of 39	Date: 08-10-2019	Issue: 6
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External Provider Score Card




Collins Aerospace - Marston




Achieving Competitive Excellence
The United Technologies Operating System

Report Date: Apr-19



Supplier Performance Score Card

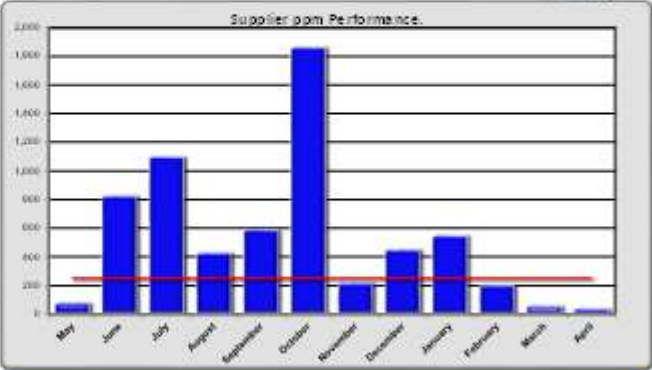


83

		Receipts	Rejects	ppm
January	Q1	83,911	0	0
February	Q1	70,305	0	0
March	Q1	89,057	14	156
April	Q1	87,252	53	596
May	Q1	79,261	0	0
June	Q1	87,365	72	824
July	Q1	78,418	88	1,007
August	Q1	93,031	40	430
September	Q1	51,160	36	598
October	Q1	77,898	145	1,861
November	Q1	88,463	19	215
December	Q1	54,274	23	419
January	Q2	88,622	19	217
February	Q2	85,514	17	198
March	Q2	88,654	5	57
April	Q2	80,049	3	36
May	Q2	0	0	0
June	Q2	0	0	0
July	Q2	0	0	0
August	Q2	0	0	0
September	Q2	0	0	0
October	Q2	0	0	0
November	Q2	0	0	0
December	Q2	0	0	0
End Q1 ppm		244,108	14	150
End Q2 ppm		254,292	130	1,465
End Q3 ppm		233,430	162	2,111
End Q4 ppm		211,635	187	2,295
End Q1 ppm		263,571	71	802
End Q2 ppm		83,048	3	36
End Q3 ppm		0	0	0
End Q4 ppm		0	0	0
2018 YTD ppm		848,438	486	574
2019 YTD ppm		246,639	74	215
2019/2020 Collins Marston Rating Average ppm: 83				

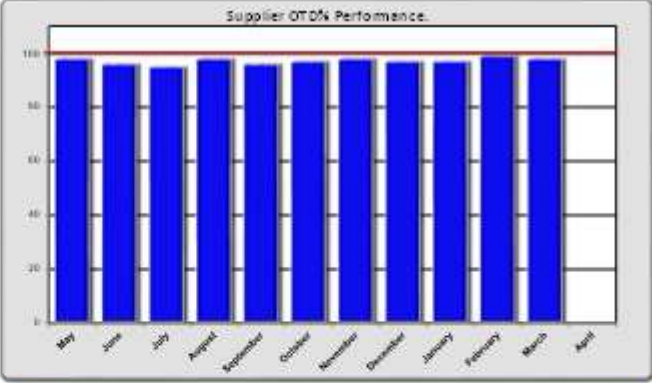
Supplier Name

Supplier ppm Performance




H2058-158 surface quality and mtl bkg parts

Supplier OTD% Performance



0

Supplier Rejected FAIR Reports



Supplier Requested Product Discrepancy/Related Concessions	1	0
Supplier Related First Article (FAIR) Turnbacks for the Month	0	0
Supplier OAR Response Time (Plus 30 days)	0	0
LEAN Manufacturing Score (Where Applicable) <small>For manufacturing site 300 min score, For distributed products site 200 min score.</small>	0	0
Quality Scope by EVENTS	2	0

Operation Scrap costs accountative for the year: **£198**

