

GS3001 EXT

Supplier Quality Management System Requirements

Issue 23 (Incorporating Addendum 002) 19 March 2019

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1 Purpose, scope and applicability

The purpose of GS3001 is to flow down the Rolls-Royce supplier quality management system requirements to all suppliers or partners who provide a product or service in support of purchase orders/contracts for Rolls-Royce Submarines Ltd (referred to as Rolls-Royce throughout this document). The scope of applicability relates to the Rolls-Royce external supplier network i.e. First-tier suppliers in receipt of a Rolls-Royce purchase order/contract. GS3001 is available to view and download from the Rolls-Royce Global Supplier Portal (GSP) https://suppliers.rolls-royce.com

GS3001 is not applicable (unless otherwise stated) to the following:

- Standard catalogue hardware or commercial-off-the shelf (COTS)^{[1][2]}
- > ISO17025 approved laboratories performing testing and calibration to an international/national standard.

For Secondary Propulsion products, the supplier must adhere to the requirements of FSA 044.

Where SABRe is stated in the product definition, purchase order/contract then GS3001 issue 23 addendum 002 (this document) shall be used and SABRe is not applicable.

Where historic component engineering specifications (CES) refer to GS3001 for requirements, these are now detailed in the following:

- Identification of products refer to DGS PS 5104
- Material certification, traceability and specimen retention refer to applicable material specification and DGS PS 5104
- Supplier types using alternative designations eg bespoke etc refer to clause 1.1 for replacement designations

NOTE 1: For standard catalogue hardware or commercial-off-the shelf (COTS) items, the applicability of the relevant sections in GS3001 may be identified if appropriate in the product definition or Rolls-Royce purchase order/contract.

NOTE 2: Counterfeit, Fraudulent and Suspect Items (CFSI) applies (see 5.19)



1.1 Scope by supplier type

- The supplier type categories listed below are to be used by the supplier to identify which clause(s) of GS3001 are applicable to their organisation. The supplier type categories will be used in conjunction with the classification categories (see 1.2) or the QA grade categories (see 1.3) as applicable. Each clause within GS3001 shows the applicability.
- Supplier approval will be undertaken against the appropriate requirements detailed herein.

Supplier type

Make to print ^[1]	Product produced (or repaired) to a Rolls-Royce product definition and the design is owned by Rolls-Royce.
Design/make	Product produced (or repaired) to a supplier product definition and the design is owned by the supplier.
Raw material	Raw material manufactured to a Rolls-Royce standard (including forgings, castings, Hot Isostatic Pressings and chemicals).
Stockist	Stockist of a raw material or product produced to a Rolls-Royce standard.
Order office	An order office controlling non-Rolls-Royce approved subcontract/sub-tier suppliers.
Service provider	Service provided to a Rolls-Royce standard.
	Design/make Raw material Stockist Order office

NOTE 1: Also applicable to make to print suppliers used for Rolls-Royce operational offload activities where Rolls-Royce provides a product for the supplier to perform specific process activities rather than production and release of the completed product. Also applicable to Modified Commercial-off-the Shelf items - GS3001 requirements will apply only to the processing of these modifications.



1.2 Scope by classification

- The Rolls-Royce customer requirements relating to product safety and quality for all Programmes are instructed on the supplier by the classification types detailed below.
- These classification types are used to identify the quality assurance requirements applied to underpin the product design requirements and to satisfy the requirements of SSCP25/SSP25 and Def-Stan 02-207 as defined in the product definition engineering controls.
- The classification types listed below are to be used by the supplier to identify which clause(s) of GS3001 are applicable to their organisation. The classification types relate to Rolls-Royce direct purchase and will be used in conjunction with supplier type categories (see 1.1) but will not be used in conjunction with the QA grades (see 1.3). Each clause within GS3001 shows the applicability.

Classification type

CR	Critical	Where the product definition identifies the product as Critical
SE	Sensitive	Where the product definition identifies the product as Sensitive
CA	Class A material	Where the product definition identifies the material as Class A
СВ	Class B material	Where the product definition identifies the material as Class B
U	Unclassified	Where the product definition identifies the product as unclassified

NOTE: The supplier will seek advice from the Rolls-Royce SPOC (see 4.3) regarding any clarification or conflict related to classification types.

1.3 Scope by Quality Assurance (QA) grade

QA grades relate to Rolls-Royce indirect purchase in support of Rolls-Royce infrastructure and services. Each clause of GS3001 shows the relevant QA grades 1, 2, 3 or 4 and their applicability will be stated in the Rolls-Royce product definition or purchase order/contract. QA grades will be used in conjunction with supplier type (see 1.1) but will not be used in conjunction with the classification types (see 1.2).

1.4 Definitions

GS3001 definitions are available to view in RRES 92010, which is available to view and download from the Rolls-Royce Global Supplier Portal (GSP) <u>https://suppliers.rolls-royce.com</u>

1.5 Forms & format

1.5.1 Forms

Where a GS3001 clause states FORMS, these forms are available to view and download from the Rolls-Royce Global Supplier Portal (GSP) <u>https://suppliers.rolls-royce.com</u>

1.5.2 Format

Each applicable clause of GS3001 has been identified with **DP** as a reference to 'Documentation Pack' requirements (see 7.4) to assist with the selection of which clause of GS3001 is applicable.



2 Management System approval

2.1 Management system certification

Supplier type A	В	С	D	Е	F
Classification type	CR	SE	CA	CB	U
QA Grade		1	2	3	4

The supplier shall:

- a) Have a documented management system that is compliant with:
 - ISO 9001 standard (or equivalent) for quality management systems
 - ISO17025 standard for testing and calibration laboratories^[1]
- b) Ensure that the documented management system is traceable to the United Kingdom Accreditation Service (UKAS) or an international/national equivalent
- c) Work only within the scope of their management system certification.

NOTE 1: ISO9001 certification is an acceptable alternative to ISO17025 when the scope of approval of an ISO9001 certified organisation specifies testing and/or calibration that is conducted as an in-house laboratory activity to support in-house production activities.

2.2 Rolls-Royce approval

Supplier type A	В	С	D	Е	F
Classification type	CR	SE	CA	CB	U
QA Grade		1	2		

The supplier shall:

- a) Hold a Rolls-Royce approval as communicated by Rolls-Royce
- b) Work only within the scope of their Rolls-Royce approval.

2.3 Deliverable Quality Plan (DQP) - WITHDRAWN

The documented information related to 'Deliverable Quality Plan (DQP)' has been withdrawn. This is no longer a Rolls-Royce requirement.

2.4 Supplier code of conduct

Supplier type A Classification type QA Grade	B CR	C SE 1	D CA 2	E CB 3	F U 4
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The supplier shall:

Demonstrate compliance with the Rolls-Royce supplier code of conduct which is available to view and download from the Rolls-Royce Global Supplier Portal (GSP) <u>https://suppliers.rolls-royce.com</u>



3 Design of product

3.1 Product design and development

Supplier type Classification type QA Grade	B CR	SE 1	CA	СВ	F U
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Product design & development requirements are applicable to suppliers authorised by Rolls-Royce to create design definitions, using their own design rules and standards within the constraints defined in RRES 90009 and/or the Rolls-Royce purchase order/contract.

The supplier shall:

Comply with the requirements of RRES 90009 Requirements for design & development activities for classification type (see 1.2) or RRES 90059 for tool and fixture design for QA grades (see 1.3).

3.2 Control of design changes

Supplier type Classification type QA Grade	B CR	SE 1	CA 2	CB 3	F U
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The supplier shall:

- a) Submit design changes^[1] to their Rolls-Royce SPOC (see 4.3) for approval
- b) Maintain records of design changes permanently (see 5.1).

NOTE 1: Design changes that affect the fit, form or function of existing designs i.e. design changes following a configuration freeze, which do not fulfil the criteria for a Definition Alteration Request (see 5.21).

4 Contract agreement

4.1 Pre-contract review

Supplier type A Classification type QA Grade	B CR	C SE 1	D CA 2	E CB 3	F U
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The supplier shall:

- a) Carry out a pre-contract review on any enquiry received from Rolls-Royce to ensure that requirements are adequately defined and fully understood
- b) Assess production feasibility to ensure that the product can be produced in accordance with the standards, specifications and tolerances specified by Rolls-Royce.

4.2 Contract review

Supplier type A Classification type QA Grade	B CR	C SE 1	D CA 2	E CB 3	F U
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The supplier shall:

- a) Review the purchase order/contract, prior to committing to supply the product or service and acceptance of purchase orders/contracts
- b) Maintain records of the contract review for 6 years (see 5.1).



4.3 Rolls-Royce Single Point of Contact (SPOC)

Supplier type A Classification type QA Grade	B CR	C SE 1	D CA 2	E CB 3	F U
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The supplier shall:

Ensure that initial communication is established with the Rolls-Royce SPOC as stated in the Rolls-Royce request for quotation or purchase order/contract related to the stated Rolls-Royce Business unit.

NOTE: The Rolls-Royce SPOC may provide the supplier with additional points of contact within Rolls-Royce to coordinate activities related to the provision of additional information, clarifications, authorisations and approval of documentation etc.

4.4 Technical query DP

Supplier type A Classification type QA Grade	B CR	C SE 1	D CA 2	E CB 3	F U
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The supplier shall:

- a) Submit a Technical Query (TQ) form TX3238 to the Rolls-Royce SPOC (<u>see 4.3</u>) where clarification of drawings, specifications or other technical definition documents is required
- b) Maintain a register of technical queries
- c) Maintain records of technical queries permanently (see 5.1).



5 Planning, production & inspection of product or service

5.1 Control of Rolls-Royce documents & records

Supplier type A	В	С	D	Е	F
Classification type	CR	SE	CA	CB	U
QA Grade		1	2	3	

The supplier shall:

- a) Establish a documented procedure to control Rolls-Royce documents & records
- b) Comply with the current revision of documents/specifications from the date of Rolls-Royce purchase order acknowledgement (or purchase order amendment acknowledgement)
- c) Ensure that documents & records requiring authorisation by Rolls-Royce are written in English
- d) Control records related to Rolls-Royce purchase orders/contracts in a manner that will allow the recovery of a readable version of any records (including electronic records) by ensuring that:
 - Records are retrievable on request within 24 hours
 - Records created by subcontractors/sub-tier suppliers are appropriately controlled and retained in accordance with these requirements
 - Hand-written amendments to records are annotated by striking through the error (leaving the original information readable) and then signing and dating (in ink) the handwritten change
 - > The storage, usage and disposal of records are performed in a manner appropriate to their security classification (when stated) and will prevent unauthorised or fraudulent use.

Permanently	Retained permanently or until Rolls-Royce has instructed the supplier to dispose of the records. Rolls-Royce shall be the final disposal authority.
6 years	Retained for six (6) years minimum commencing from the date that the product or service was delivered to Rolls-Royce. The supplier can dispose of these records at the end of the specified period.

5.2 Characteristics matrix

Supplier type A B Classification type CR SE QA Grade

 Applicable for new product introduction (NPI) and product introduction (PI) activities on critical items and/or Key Product Characteristics (KPCs).

The supplier shall:

Develop a characteristic matrix to identify all product characteristics and the manufacturing process stage(s) where verification will be conducted within the method of manufacture.



5.3 Process flow diagram

Supplier type	B	C
Classification	CR	SE
QA Grade		

Applicable for new product introduction (NPI) and product introduction (PI) activities.

The supplier shall:

Develop and document a production process flow diagram that includes (but is not limited to) the following:

- Process operational sequence
- Processes requiring a qualified operator
- Identification of external (subcontract) activities
- ➢ Where in the operational sequence product/process verification is performed (<u>see 5.2</u> & <u>6.1</u>).

NOTE: A single process flow diagram may apply to a group or family of products that are produced by the same process at the same source.



5.4 Method of Manufacture (MoM) DP

Supplier type A Classification type	B CR	C SE	СА	СВ	F U
QA Grade		1	2	3	

The supplier shall:

- a) Determine a suitable Method of Manufacture (MoM) for the product
- b) Record the MoM in the suppliers own format document or documents
- c) For all classifications of product the document(s) used to record the MoM shall meet the following requirements:
 - > A unique identity and revision status
 - The sequence of production/manufacturing operations containing the method, parameters and equipment to be used
 - Reference to all manufacturing control documents, e.g. specifications, standards, procedures, instructions, software programs to be used
 - > Reference to the part or part families that it applies to
 - A documented MoM may apply to a group or family of products produced by the same process at the same source
 - > Where flexibility in the sequence is desirable this shall be identified, e.g. assembling in no particular order
 - Identification of the special processes that will be employed (see 5.6)
 - Hold/witness points (see 6.2)
 - > The testing, inspection/measurement operations covering all product and process characteristics
- d) Ensure the MoM documentation, where RRES 92000 is stated in the product definition, is a Fixed Process Document. The FPD may be in the supplier's own format or can utilise the FPD template available on the Global Supplier Portal (GSP). In addition to meeting the requirements in the list above it shall include:
 - All production operations shall be classified as requiring Engineering Control (EC) or Manufacturing Engineering Control (MEC)
 - EC operations Changes to the MoM are not permitted unless authorised by Rolls-Royce.
 - MEC operations Changes to the MoM are controlled by the Manufacturing Engineering Function within the Supplier's organisation
- e) Submit the MoM documentation for product classified as CR, SE or CA to the Rolls-Royce SPOC for approval.
 - For product with other classifications the MoM documentation is to be available to Rolls-Royce, but is not required to be submitted for approval
 - Where RRES 92000 is stated in the product definition a Fixed Process Approval (FPA) form, available on the Global Supplier Portal (GSP), shall accompany any submission of the FPD to Rolls-Royce for approval of initial issue or change
 - ➢ For secondary equipment products as stated on the Rolls-Royce purchase order, a record of MoM approvals is to be created for the QASOR items on form FSA 099 (available from Rolls-Royce on request)
- f) Ensure that MoM documentation is accessible for use at the work station
- g) Ensure that any sub-tier supplier submits FPD change requests to them. The supplier shall review and record changes to the sub-tier supplier's FPD and satisfy the requirements of this specification
- h) Ensure that MoM records provide a traceable reference to; the operator/inspector who performed each operation, bill of materials, sub-tier/subcontract activities and verification that all manufacturing, inspection/test operations have been completed as planned
- i) Submit any non-compliance with the Rolls-Royce approved MoM to the Rolls-Royce SPOC for appropriate sentencing (see 4.4)
- j) Maintain records of the MoM permanently (see 5.1).

5.5 Work instructions – WITHDRAWN

This section has been removed. The requirements have been combined with the MoM requirements in Section 5.4.

5.6 Special Process Procedures DP

Supplier type A Classification type QA Grade	B CR	C SE 1	CA 2	CB 3	F U
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The supplier shall:

- a) Use sources approved by Rolls-Royce (see 2.2) for the provision of special processes when special process controls are defined within a Rolls-Royce standard/specification.
- b) Establish documented procedures (and data cards where required by the product definition)^[1] for any special processes that are carried out by the supplier (or their subcontract/sub-tier suppliers) and submit to their Rolls-Royce SPOC (see 4.3) prior to use for initial approval^[2] and approval of any changes (unless otherwise stated)
- c) Maintain a traceable reference to the person authorised to approve documented procedures and data cards
- d) Create a record of special process procedure approvals on FSA 099 (available from Rolls-Royce on request) for secondary equipment when QASOR items are stated in the Rolls-Royce purchase order/contract.
- e) Maintain records of special process procedures/data cards and results permanently (see 5.1).

NOTE 1: Where the supplier owns the design for the product or service, these documented procedures and/or data cards only need to be approved by Rolls-Royce when the product definition states an applicable Rolls-Royce special process specification.

NOTE 2: Unless otherwise stated, documented procedures/data cards related to a QA grade 3 category (<u>see 1.3</u>) only need to be approved by Rolls-Royce when the product definition states an applicable Rolls-Royce special process specification.

5.7 Process Failure Mode & Effects Analysis (PFMEA)

Supplier type Classification ty QA Grade	A pe	B CR	C SE	
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Applicable for new product introduction (NPI) and product introduction (PI) activities.

The supplier shall:

- a) Develop a PFMEA^[1] for the production processes identified in the process flow diagram (<u>see 5.3</u>) in advance of producing the product
- b) Identify and document which processes hold the highest risk^[2] of potential failure and the effects of that failure related to the product, process or service
- c) Take appropriate mitigating action for high risk processes to reduce or eliminate the chance of the potential failure occurring
- d) Review/update the PFMEA when changes are made to product definition, process operating conditions or when nonconformance has been identified
- e) Provide feedback to their Rolls-Royce SPOC (see 4.3) when appropriate risk mitigation cannot be provided
- f) Maintain records of PFMEA for 6 years commencing from the date that the final product was delivered to Rolls-Royce (see 5.1).

NOTE 1: A single PFMEA may apply to a group or family of products that are produced by the same process at the same source.

NOTE 2: The supplier will include any risks identified by Rolls-Royce such as Conformance Control Features (CCFs) or Key Product Characteristics (KPCs). When the product definition identifies the product as Sensitive a PFMEA is only required when Key Product Characteristics (KPCs) are identified.



5.8 Process Control

R SE

Applicable for new product introduction (NPI) and product introduction (PI) activities.

The supplier shall:

- a) Develop process controls^[1] for the PFMEA outputs (<u>see 5.7</u>) for each product or service in advance of producing the product or service
- b) Review and update process controls when any change occurs affecting product, service, production process, measurement, logistics, supply sources or PFMEA
- c) Maintain a process to review the effectiveness of these process controls
- d) Maintain records of process controls for 6 years commencing from the date that the final product or service was delivered to Rolls-Royce (see 5.1).

NOTE 1: Process controls may apply to a group or family of products that are produced by the same process at the same source. Process control can be embodied within the content of the MoM (see 5.4) or be a separate document such as a control plan.

NOTE 2: When the product definition identifies the product as Sensitive, Process Control is only required when Key Product Characteristics (KPCs) are identified.

5.9 Training and competence

Supplier type A	В	С	D	Е	F
Classification type	CR	SE	CA	CB	U
QA Grade		1	2	3	

The supplier shall:

- a) Ensure that personnel are competent on the basis of appropriate education, training, or experience
- b) Identify training needs and succession planning
- c) Maintain records of training and competence permanently (see 5.1).

5.10 Software development plan – WITHDRAWN

The documented information related to 'Software Development Plans' has been withdrawn. This is no longer a Rolls-Royce requirement.

5.11 Non-metallic materials – WITHDRAWN

The documented information related to 'Non-metallic materials' has been withdrawn from GS3001 as the applicability of the Rolls-Royce Database of Non-Metallic Materials RRA15721 will be stated on the Rolls-Royce product definition.

5.12 Contamination & foreign debris control – WITHDRAWN

The documented information related to 'Contamination & foreign debris control' has been withdrawn from GS3001 as the applicability will be stated on the Rolls-Royce product definition.

5.13 Calibration

Supplier type A Classification type QA Grade	B CR	C SE 1	CA 2	CB 3	F U
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Rolls-Royce

The supplier shall:

- a) Ensure that the monitoring/measuring equipment used to perform product verification (see 6.1) activities is calibrated and traceable to international or national measurement standards
- b) Ensure that the measurement and calibration systems applied are in accordance with BS EN ISO 10012 (Measurement Management Systems)
- c) Maintain records of calibration permanently (see 5.1).

5.14 Measurement System Analysis (MSA)

Supplier type A Classification type QA Grade	B CR	SE	CA	СВ	U
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The supplier shall:

- a) Perform suitable measurement systems analysis^[1] to prove measurement capability and record results^[2]
- b) Have personnel available who are trained and competent in measurement systems analysis techniques and statistical studies
- c) Ensure that the monitoring/measuring equipment is calibrated (see 5.13)
- d) Ensure participants in the study are representative of those using the measurement systems in production
- e) Perform a review of measurement capability where tolerances, personnel or environmental conditions have changed
- f) Maintain records of MSA for 6 years (see 5.1).

NOTE 1: Measurement system analysis techniques and statistical studies refer to Gauge Repeatability & Reproducibility and/or Attribute Agreement Analysis.

NOTE 2: Guidance material for MSA is available to view and download from the Rolls-Royce Global Supplier Portal (GSP) <u>https://suppliers.rolls-royce.com</u>

5.15 Process audit



The supplier shall:

- a) Establish a documented procedure for an audit programme that includes an audit of a process operational sequence^[1] related to the production activities to determine that the process is fit for purpose and to verify compliance to planned arrangements related to Rolls-Royce purchase orders/contracts. The audit programme shall be prioritised based on risk and include purchased/subcontracted^[2] activities (<u>see 5.16</u>)
- b) Establish specific checklists to be used for each audit
- c) Take immediate action when an audit result identifies a product nonconformity (see 6.3)
- d) Take appropriate corrective action (<u>see 6.4</u>) within 90 days or prior to shipment of product (whichever is the soonest)
- e) Maintain records of process audits for 6 years (see 5.1).

NOTE 1: The operational sequence refers to how the required production/manufacturing will be carried out as specified in the process flow diagram (see 5.3) and/or MoM (see 5.4).

NOTE 2: Applicable when purchased/subcontracted activities relate to subcontract/sub-tier suppliers who do <u>not</u> hold a Rolls-Royce approval.



5.16 Purchasing/subcontracting

Supplier type A Classification type QA Grade	B CR	C SE 1	D CA 2	E CB 3	F U
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- Where Rolls-Royce owns the design for the product, process or service the supplier may select, approve and maintain a sub-tier supplier network when authorised/approved by Rolls-Royce to control sub-tier suppliers.
- Where the supplier (purchaser) owns the design for the product, process or service then the supplier may select, approve and maintain a sub-tier supplier network without authorisation/approval by Rolls-Royce.

The supplier shall:

- a) Only purchase from a source holding ISO9001 and/or ISO17025 as appropriate (see 2.1)
- b) Flow down the applicable requirements and expectations of the supplier (purchaser) and Rolls-Royce to their sub-tier/subcontract suppliers
- c) Ensure that international/national standard metallic material specifications are purchased from a source holding ISO9001 certification and are tested to specification (chemical analysis and mechanical test) by an ISO17025 certified inspection and testing laboratory (see 2.1)
- d) Ensure material stockist/distributors provide traceability to the raw material manufacturer
- e) Only purchase from a Rolls-Royce approved source (see 2.2) when purchasing:
 - Rolls-Royce special processes (<u>see 5.6</u>)
 - ➢ Rolls-Royce material specifications^[1]
- f) Maintain records of purchase orders for 6 years (see 5.1).

NOTE 1: Rolls-Royce agreement (see 4.3) is required to re-certify material produced to an international/national standard to meet the requirements of a Rolls-Royce (RRMS / DGS MS) standard.

5.17 Goods inward

Supplier type A Classification type QA Grade	B CR	C SE 1	D CA 2	E CB	F U
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The supplier shall:

- a) Have a goods inward process to check that purchased raw material, product or service meets the purchaser's requirements
- b) Perform inspection and test activities to verify purchased product (see 6.1) when required
- c) Ensure that the required supporting documentation^[1] has been provided with the purchased product or service that states that the product or service meets specified purchase requirements
- d) Maintain records of goods inward for 6 years (see 5.1).

NOTE 1: The supplier may accept the release documentation from Rolls-Royce as sufficient evidence of product traceability, where the product is provided by Rolls-Royce. In such cases, any requirement to check test reports and original raw material manufacturing source certificates is <u>not</u> necessary.



5.18 Supply chain management

Supplier type A B C Classification type CR SE C QA Grade 1 C C	CA CB U 2
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The supplier shall:

- a) Establish and maintain a supply chain map^[1] listing all levels of sub-contract/sub-tier suppliers in support of Rolls-Royce purchase orders/contracts, the approval/accreditation/certification held and the scope of operations performed
- b) Monitor key subcontractor/sub-tier supplier performance through the following indicators:
 - > Delivered product or service quality
 - Customer disruptions/customer returns
- c) Take appropriate corrective action with poorly performing subcontractor/sub-tier suppliers (see 6.4)
- d) Maintain records of subcontractor/sub-tier supplier monitoring for 6 years (see 5.1).

NOTE 1: Where secondary equipment is specified on the Rolls-Royce purchase order/contract - use form FSC 164 (available from Rolls-Royce on request).

5.19 Counterfeit, fraudulent and suspect items (CFSI)

Supplier type A Classification type QA Grade	B CR	C SE 1	D CA 2	E CB 3	F U 4
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The supplier shall:

Demonstrate arrangements have been established to actively plan and manage the risk of Counterfeit, Fraudulent and Suspect Items (CFSI) in accordance with Def Stan 05-135 – Avoidance of Counterfeit Materiel which is available to view and download from https://sts.defencegateway.mod.uk/

5.20 Control of work transfers (source change)

Supplier type A Classification type QA Grade	CR	SE	CA	E CB	U
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Control of work transfers (source change) is <u>not</u> applicable when purchasing from any source that holds a current valid FAIR (<u>see 6.8</u>) for the product or service.

The supplier shall:

- a) Establish a documented procedure for the control of work transfers (source change) to plan, control and verify the conformity to specified requirements during the temporary or permanent transfer of work. The procedure shall contain (but not be limited to):
 - > Formal notification to all stakeholders and customers before any change commences
 - Risk assessment and mitigation
 - Transfer plan
 - Demonstration of capacity at the in-loading area to protect customer delivery
- b) Complete and submit the form(s) associated with this activity to their SPOC (see 4.3)
- c) Proceed with the work transfer (source change) when a response has been received from their Rolls-Royce SPOC and comply with requirements specified in the response
- d) Maintain records of work transfers (source change) for 6 years (see 5.1).



5.21 Definition Alteration Request (DAR) DP

Supplier type A C Classification type CR SE CA CB U QA Grade
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The supplier shall:

- a) Complete and submit the form associated with this activity to their Rolls-Royce SPOC (see 4.3)
- b) Ensure DARs are authorised by Rolls-Royce before implementation (including verification and validation as appropriate)

FORMS (see section 1.5.1)

5.22 Tooling control

Supplier type A Classification type QA Grade	B CR	C SE	CA	СВ	F U
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The supplier shall:

- a) Establish a system for the management of production tooling^[1] that includes (but is not limited to) the following:
 - Unique tool identification
 - Validation of tooling prior to release for production
 - Tooling set-up
 - Tooling life control/tool-change programmes
 - Tooling modification and revision
- b) Ensure that tooling^[1] owned by Rolls-Royce and/or Rolls-Royce customers/Government Furnished Equipment (GFE) are controlled as shown above, plus the following:
 - Identified as Rolls-Royce owned
 - Tooling register established
 - Used only for Rolls-Royce applications
 - > Audited annually (stock take) and periodic preservation/condition checks for tooling held in storage
 - Modifications only after written authorisation by Rolls-Royce SPOC (see 4.3)
 - Disposal only after written authorisation by Rolls-Royce
- c) Maintain records of tooling control for 'b' above for 6 years (see 5.1).

NOTE 1: Tooling also includes jigs and fixtures

5.23 Storage

The supplier shall:

a) Provide secure storage facilities for product in accordance with the component definition security classification

Supplier type

QA Grade

Classification type

A

В

CR

С

SF

1

D

CA

2

F

U

CB

3

- b) Ensure the conditions of storage prevent deterioration and damage of stored product
- c) Assess the condition of product in stock at appropriate planned intervals in order to detect deterioration
- d) Ensure that access to storage facilities is restricted to authorised personnel.



6 Verification of product or service

6.1 Product verification DP

Supplier type A Classification type QA Grade	B CR	C SE 1	D CA 2	СВ	F U
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The supplier shall:

- a) Perform inspection^[1] and test activities on all product/process characteristics on all products to verify that requirements have been met in accordance with the product definition.
- b) Ensure that monitoring/measuring equipment used for the final verification/inspection of product is independent to those used for product measurement during production activities or will be re-calibrated/verified prior to use where independence cannot be achieved
- c) Record the actual measurement results/values for features identified as a Conformance Control Feature (CCF) or Key Product Characteristic (KPC)
- d) Only apply sample or reduced inspection when authorised by Rolls-Royce^[2]

e) Maintain records of product verification permanently (see 5.1).

NOTE 1: This shall be carried out at appropriate stages of the production process in accordance with the MoM (<u>see 5.4</u>).

NOTE 2: Submit sampling plans or reduced inspection plans to the Rolls-Royce SPOC (<u>see 4.3</u>) prior to use. The supplier will receive a completed vendor document approval from Rolls-Royce as evidence that the supplier's document has been approved.

6.2 Hold point/witness point & rights of access

Supplier type A Classification type QA Grade	B CR	C SE 1	D CA 2	E CB 3	F U
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The supplier shall:

- a) Allow the Rolls-Royce representative, their customer and third party inspection personnel the right of access to the applicable areas of all facilities, at any level of the supply chain involved in the purchase order/contract and to all applicable records to perform surveillance activities and the review of hold/witness points
- b) Provide the Rolls-Royce SPOC (see 4.3) with a minimum of 10 working days' notice in writing prior to reaching a hold/witness point.

NOTE: Rolls-Royce will advise the supplier of the hold/witness points required for both customers and Rolls-Royce to be applied during manufacture via the MoM (<u>see 5.4</u>).



6.3 Control of nonconforming product or service

Supplier type A Classification type QA Grade	B CR	C SE 1	D CA 2	E CB 3	F U
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The supplier shall:

- a) Establish a documented procedure for the control of nonconforming product or service
- b) Contain nonconformities by segregating (or identifying and controlling) the product or process to prevent its unintended use or delivery
- c) Take necessary actions to contain the effect of the nonconformity on other processes or products for work in progress, stores stock, shipping area, in transit, sub-tier/subcontract activities, similar products, despatched/delivered to customer (within 48 hours)
- d) Immediately notify their Rolls-Royce SPOC (see 4.3) of any delivered nonconforming product or service
- e) Clearly and permanently mark (or establish alternative controls to prevent use) product dispositioned as scrap until physically rendered unusable in accordance with the component definition security classification
- f) Take appropriate corrective action (see 6.4)
- g) Maintain records related to the control of nonconforming product or service permanently (see 5.1).

6.4 Corrective action

Supplier type A Classification type QA Grade	B CR	C SE 1	D CA 2	E CB 3	F U
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The supplier shall:

- a) Establish a documented procedure for corrective action^[1]
- b) Take appropriate corrective action to eliminate the causes of nonconformities in order to prevent recurrence
- c) Verify that the corrective action has prevented any recurrence of further nonconformities
- d) Flow down corrective action requirements to subcontractors/sub-tier suppliers (when applicable)
- e) Review/update the PFMEA (see 5.7) and the Process Control (see 5.8) when corrective action has been identified
- f) Maintain records of corrective action for 6 years (see 5.1).

NOTE 1: Where corrective action has been defined as rework, the product or process will be reworked in accordance with the MoM (see 5.4) sequence of operations or to an agreed rework procedure authorised by Rolls-Royce.

6.5 Deviation permit/concession

Supplier type A Classification type QA Grade	B CR	C SE 1	D CA 2	E CB 3	F U
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The supplier shall:

- a) Complete and submit the deviation permit/concession form TX0986 to their Rolls-Royce SPOC (see 4.3)
- b) Ensure that written authorisation for the deviation permit or concession has been granted by Rolls-Royce prior to the shipment of a product or service which does not conform to specified requirements
- c) Take appropriate corrective action (see 6.4)
- d) Maintain records of deviation permits/concessions permanently (see 5.1).



6.6 Light levels

Supplier type A Classification type QA Grade	B CR	C SE 1	CA 2	CB 3	F U
Gri Crado		1.1	-	0	

Applicable to product verification/inspection activities requiring accurate visual verification when no other standard related to light levels has been specified in the Rolls-Royce product definition.

The supplier shall:

Ensure product verification/inspection activities are performed in local lighting conditions that provide a white light intensity at the point of inspection of not less than 500 LUX for dimensional inspection.

6.7 Vision standards

Supplier type A Classification type QA Grade	B CR	C SE 1	CA 2	CB 3	F U
QA Glade			2	5	

Applicable to personnel conducting product verification/inspection that requires visual acuity when no other standard related to visual acuity has been specified in the Rolls-Royce product definition.

The supplier shall:

- a) Perform a near vision assessment of visual acuity on commencement of employment and at two (2) yearly intervals for personnel engaged in product or service verification/inspection activities
- b) Ensure that the vision assessment is performed by a trained/qualified person
- c) Ensure that optical aids used during product verification/inspection activities are worn during the vision assessment
- d) Perform a colour perception test at five (5) yearly intervals to ensure that personnel are capable of distinguishing and differentiating colours only where colour perception is required for product or service verification/inspection activities
- e) Retain records of vision standards permanently (see 5.1).

6.8 First Article Inspection (FAI) DP

- When the product definition identifies the product as Sensitive a FAIR is only required when Key Product Characteristics (KPCs) are identified.
- FAIR is <u>not</u> applicable to elements of the process related to material or product provided by Rolls-Royce.

The supplier shall:

- a) Perform a FAI on the first production product to be delivered in accordance with AS/EN/SJAC 9102 specification and forms
- b) Submit^[1] the FAI report (FAIR) to their Rolls-Royce SPOC (<u>see 4.3</u>) for approval
- c) Only release product against a FAIR authorised by Rolls-Royce
- d) Maintain records of FAIR permanently (see 5.1).

NOTE 1: If the FAI documents are the same requested for Documentation Pack requirements (see 7.4) or PPAP (see 7.3) then a cross reference to these documents is acceptable.



7 Release and delivery of product or service

- The requirement for a TX0206/TX0855/C of C release documents will be stated in the Rolls-Royce purchase order/contract.
- 7.1 Certificate of Conformity (C of C) DP

Supplier type A	В	С	D	E	F
Classification type	CR	SE	CA	CB	U
QA Grade		1	2	3	

The supplier shall:

- a) Provide separate C of C with the delivery of each product, process or service
- b) Ensure that the C of C is written in English and contains the following information as a minimum:
 - > Unique traceable document reference number
 - Supplier's name, address and telephone number
 - Delivery address
 - Rolls-Royce purchase order number (including purchase order item number)
 - Description of the product (as referenced in the Rolls-Royce purchase order)
 - Part number (as referenced in the Rolls-Royce purchase order)
 - ▶ Kit number (when applicable) plus a list of part numbers, quantities, serial numbers
 - > Traceable reference (serial, batch, lot, heat, cast numbers as applicable)
 - Quantity
 - Date of despatch/completion
 - Conformance/compliance statement^[1]
 - Signature of person authorised to release the product to the customer (see 7.2)
- c) Provide additional information (when applicable):
 - First Article Inspection Report (FAIR) number
 - Rolls-Royce approval plan number
 - Rolls-Royce quality plan number
 - Rolls-Royce Definition Alteration Request (DAR)
 - Rolls-Royce deviation permit/concession number
 - Copy of any Rolls-Royce deviation permit/concession categorised 1 or 2
 - > Hazardous substances/safety data sheet (safety data sheet to be provided)
 - > Shelf life (cure date, batch, group) no mixed cure dates/batches
 - Copy of lifting equipment certification
- d) Ensure that the metallic material certification is provided in accordance with BS EN 10204 Type 3.1 certification unless otherwise stated in the purchase order/contract
- e) Ensure that metallic materials for secondary equipment are provided with BS EN 10204 Type 3.2 certification (when stated in the QASOR or product definition) and that the raw material manufacturer is certified by an International Association of Classification Societies (IACS) accredited third party with all material mechanical and chemical testing witnessed by an IACS accredited third party at an approved United Kingdom Accreditation Service (UKAS) or ISO 17025 certified testing laboratory (see 2.1) or an international equivalent
- f) Maintain records^[2] of C of C's permanently (see 5.1).

NOTE 1: Typical compliance statement: "Certified that the whole of supplies hereon have been inspected/tested and unless otherwise stated, conform in all respects to specification, drawing and purchase order requirements".

NOTE 2: Records of C of C's held electronically shall contain all of the information shown in the original document and a traceable reference to the person authorised to release the product to customer.



7.2 TX0206/TX0855 release documents DP

Supplier type A Classification type QA Grade	B CR	C SE	D CA	E CB	U
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The supplier shall:

- a) Establish a signatures list of personnel authorised by their own organisation to sign the TX0206/TX0855 and/or Certificate of Conformity (see 7.1)
- b) Ensure that the TX0206/TX0855 are available to the Rolls-Royce representative on arrival at the supplier's premises
- c) Maintain a register of TX0206/TX0855 numbers^[1] allocated to product release to prevent duplication
- d) Ensure that the TX0206/TX0855 contains the information as specified on the C of C (see 7.1b & c)
- e) Include the following additional information on the TX0206/TX0855 for secondary equipment^[2]
 - BAE Systems purchase order number^[3]
 - QASOR issue number^[3]
 - All supplied documents to be marked on the top right hand corner with the QASOR reference line and section
- f) State the BAE purchase order line item number and Corporate Part Catalogue (CPC) number^[3]
- g) Maintain records of TX0206/TX0855 release permanently (see 5.1).

NOTE 1: Rolls-Royce will allocate a TX0206/TX0855 number upon request.

NOTE 2: Secondary equipment and QASOR is specified on the Rolls-Royce purchase order/contract.

NOTE 3: This information will be provided by Rolls-Royce on request.



7.3 Production Product Approval Process (PPAP)

- PPAP is applicable when stated in the Rolls-Royce purchase order/contract.
- 7.3.1 Production Product Approval Checklist (PPAC)
- Each applicable element of PPAP shall be specified in the Rolls-Royce Production Product Approval Checklist (PPAC) form and referenced in the Rolls-Royce purchase order/contract.

The supplier shall:

Provide Rolls-Royce with evidence that the applicable PPAP requirements have been met in accordance with the PPAC.

NOTE 1: If the PPAP documents are the same as requested for Documentation Pack requirements (<u>see 7.4</u>) or FAI (<u>see 6.8</u>) then a cross reference to these documents is acceptable.

NOTE 2: Where clarification of the PPAP process is required, it shall be sought from the Rolls-Royce SPOC (<u>see 4.3</u>).

FORMS (see section 1.5.1)

7.3.2 Production Submission Warrant (PSW)

Where PPAP is a contracted requirement the availability of the PSW shall <u>not</u> prohibit the final acceptance and release of the product, but shall be submitted as per the agreed timescales in the PPAC form.

The supplier shall:

- a) Submit the PSW form to the Rolls-Royce SPOC (see 4.3) for approval
- b) Maintain records of the PSW permanently (see 5.1).

FORMS (see section 1.5.1)

7.4 Documentation Pack (DP) requirements

Supplier type A Classification type QA Grade	B CR	C SE 1	D CA 2	E CB 3	F U
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The supplier shall:

Provide Rolls-Royce with a readable version of records (including electronic records) at point of release, comprising of the relevant documents specified in GS3001 Table 1 as Documentation Pack (DP) requirements. Table 1 identifies the documentation that will be delivered with the product related to the classification of the product.

Each applicable clause of GS3001 has been identified with DP to assist with the selection of which clause of GS3001 is applicable.

DP = The supplier shall provide a copy of the documents identified in Table 1 associated with the product or service provided to Rolls-Royce.

Proprietary information can be retained by the supplier and referenced within the Document Pack with the prior agreement of the Rolls-Royce SPOC (see 4.3).

AR = Archive at supplier

NR = No requirement for documentation records.

NOTE: A copy of the documents stated above will be retained by the supplier in accordance with Control of Rolls-Royce documents and records (see 5.1).

	Table 1: DOC	UMENTA	TION PACK		REMENT	S					
Operation / QC activity	GS3001 reference clause	Critical	Sensitive	Class A	Class B	Unclassified	QA Grade 1	QA Grade 2	QA Grade 3	QA Grade 4	
Technical Queries (TQs).	<u>4.4</u>			AR	AR	AR	DP	DP	DP	NR	
Production Records, a copy of the actual documentation used to track production incorporating; evidence of signed off operations, record of actual document versions used.	<u>5.4</u>			DP	DP	DP	DP	DP	DP	NR	
Record of special processes results.	<u>5.6</u>			DP	DP	AR	DP	DP	DP	NR	
Definition Alteration Request (DAR).	<u>5.21</u>			DP	DP	DP	NR	NR	NR	NR	
Inspection and test results.	<u>6.1</u>			DP	DP	DP	DP	DP	NR	NR	
Measurement results for KPCs/CCFs and features where measurement is recorded electronically.	<u>6.1</u>			DP	DP	DP	DP	DP	NR	NR	
First Article Inspection Report (FAIR).	6.8 Refer to Product		NR	NR	NR	NR	NR	NR	NR		
Certificate of Conformity.	<u>7.1</u>	Definition			DP	DP	DP	DP	DP	DP	NR
Material Certificate of Conformity including weld consumables.	<u>7.1</u>			DP	DP	DP	DP	DP	DP	NR	
Material test reports (mechanical, chemical, metallurgical etc.) i.e. Test/Mill Certificate including weld consumables.	<u>7.1</u>			DP	AR	AR	DP	DP	DP	NR	
TX0206 or TX0855.	<u>7.2</u>			DP	DP	DP	NR	NR	NR	NR	
Archive material retained in accordance with Rolls- Royce instructions.	See Dreduct			DP	NR	NR	NR	NR	NR	NR	
Artisan features application as specified in Rolls- Royce instructions.	See Product Definition				DP	AR	NR	NR	NR	NR	NR
Product mechanical pre-strain in accordance with Rolls-Royce instructions.				DP	NR	NR	NR	NR	NR	NR	

Change History						
Issue	Date	Description of Change				
23	21 December 2016	This document is an initial issue of the document titled Supplier Quality Management System Requirements which combined GS3001 with selected clauses taken from SABRe Supplier Management System Requirements. GS3001 issue 23 (this document) replaces all previous issues of GS3001 and combines SABRe Edition 2 issue 1 therefore when GS3001/SABRe are stated in the purchase order/contract then GS3001 (this document) shall be used and SABRe is not applicable.				
23 Incorporating Addendum 001	24 July 2017	The various addenda shown within this document relate to minor amendments that are intended to clarify and/or simplify the requirements and expectations of GS3001 issue 23 and identify the withdrawal of clauses 2.3, 5.5, 5.10, 5.11 and 5.12. The amended information is shown in red text and/or with a vertical line on the right hand border to indicate where the amendment has been applied to a requirement (This will not be applied for minor editorial changes). These amendments are to be introduced with immediate effect and are planned to be included within the next revision update of GS3001.				
23 Incorporating Addendum 002	19 March 2019	The update to this document reflects the change in trading name for the Rolls-Royce divisions issuing contacts under GS3001. The amended information (Clause 1) is shown with a vertical line on the right hand border to indicate where the amendment has been applied, and prior change marks relating to Addendum 1 have been removed. These amendments are to be introduced with immediate effect and are planned to be included within the next revision update of GS3001.				

Document update policy

This document may be updated periodically. Major amendments will be shown as an update from one issue number to a higher issue number and therefore the content of the higher issue will be regarded as the latest requirements. A minor amendment will be shown as the current issue with the inclusion of an addendum 001, 002 etc.



Rolls-Royce plc 2019

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