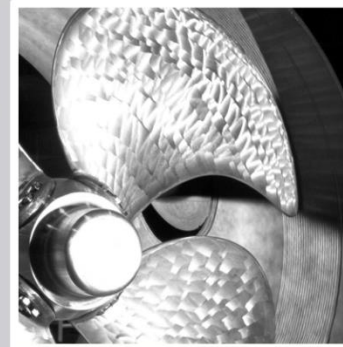
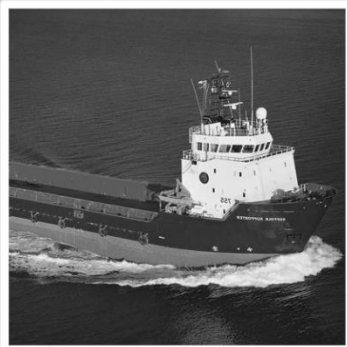


The Design & Development process in the Design Sub Contract supply chain

Issue 4 - April 2017

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RR DOA: Supplier Design & Development Requirements 'Flow-Down'

RRMS process

Customer/Regulatory Requirements

RR DOA Exposition
EASA 21 (J)

SABRe B2.1
For product design/dev activities, the supplier shall comply with the requirements of RRES90009

GP ES 0
Source Strategically and Manage External Suppliers

LP ES 0-3
Manage Supplier Approval

RRMS process

GP EP Series Design Definition
(WI EP 0-1 for design only or design/make suppliers)

RRES90009 Requirements for Design & Dev
The applicability of these requirements to the suppliers products/programmes will be defined by RR and shall be agreed with the supplier through their compliance matrix included within their DDQP/ESID

ESID
Engineering Supplier Integration Document

Supplier Design Surveillance

GP QI 3.1
Supplier Assessment

RRW
Supplier Approval codes/Approval Certificate



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Design Organisation Approval (DOA) Exposition

Extract from RRD EASA DOA Exposition Item 10

- Engineering design work (including test and analysis) may be undertaken by external organisations under the control of the Rolls-Royce Deutschland DOA. The global Rolls-Royce Specification **RRES 90009** (Requirements for Design and Development Activities) contains the set of requirements applicable to the management of RRD Design Supplier and to any inter-company trading within the Rolls-Royce community.
- External organisations carrying out such work require approval by Rolls-Royce consistent with the type of work and the organisation concerned. VA.SB.0100 (Quality Assurance System Requirements for Suppliers to Rolls-Royce Deutschland Ltd & Co KG), VA.SB.0060 (Approval and Authorization of Supply Sources), VA.SB.0206 (Procurement of Investments, Services and Non-aeronautical Items), GP SB 2 (Create Integrated Commodity Strategies) and GP SB 5 (Maintain Supplier) provide the procedural and control requirements for this. **SABRe** (Supplier Advanced Business Relationship) is the controlling Quality System for all Rolls-Royce suppliers. **SABRe** is issued to all suppliers. It describes the Rolls-Royce Deutschland requirements and processes and is a mandatory requirement placed on all suppliers.



Rolls-Royce

DOA Exposition

Extract from Rolls-Royce UK MISC3309 EASA Design organisation exposition Item 13

- Engineering design work (including test and analysis) may be undertaken by external organisations under the control of the Rolls-Royce plc DOA.
- External organisations carrying out such work require approval by Rolls-Royce consistent with the type of work and the organisation concerned. GP ES 0 (Source Strategically and Manage External Suppliers) provides the procedural and control requirements for this. The Rolls-Royce Supplier Management System, known as **SABRe**, is the controlling Quality System for all Rolls-Royce suppliers. **SABRe** is located within the **RRMS** and is also provided to all suppliers. It describes the Rolls-Royce plc requirements and processes and is a mandatory requirement placed on all suppliers.



Rolls-Royce

Design/Make or Design/Development Suppliers

RRMS process - WI EP 0-1 (Manage design only or design and make suppliers)

Design only or design and make suppliers shall have procedures that meet the requirements of RRES 90009 Requirements for Design and Development Activities and shall operate their procedures to meet the rules of GP EP 0. Design only or design and make suppliers shall be managed according **WI EP 0-1**.

- **Purpose**

- This Work Instruction defines the operation of Engineer Products procedures using Design only or design and make suppliers within the team. A Design only or design and make supplier is one where reliance is put upon their specialist engineering knowledge or competence to develop product definition data or supply design or development (that is verification by physical testing) tasks specifically for a Rolls-Royce application.

- **Applicability**

- This global Work Instruction is applicable to GP EP 0 and its sub-procedures and is applicable at product, system or component level. The term Design only or design and make suppliers includes suppliers producing designs specifically for a Rolls-Royce application, risk and revenue sharing partners, joint ventures and other Rolls-Royce companies (legal entities).



Rolls-Royce

Source Strategically and Manage External Suppliers

RRMS process – GP ES 0 (Source Strategically and Manage External Suppliers)

The purpose of this process is to set the principles and key steps by which Rolls-Royce sources from and manage external suppliers, and the principles for managing external supplier relationships.

➤ **LP ES 0-3 - Manage Supplier Approvals**

This LP prescribes the methods to be used for managing supplier approvals.

➤ **Supplier Approval Process Manager**


This document provides instructions for the application of LP ES 0-3 (A,N) – Manage Supplier Approval for employees working in the Aerospace and Infrastructure & Services areas of Rolls-Royce. It must be used in conjunction with GP QI 3.1 Manage Internal & Supplier Audit where audit activity of the supplier is being conducted.



Rolls-Royce

Getting started – SABRe/RRES 90009

(supplier access)



Rolls-Royce

Global Supplier Portal

[Home/Login](#) [Useful links](#) [Supplier documents](#)

General links


- About Global Supplier Portal
- Rolls-Royce home
- Getting access to the GSP
- Resolve Certificate issue

My account

- Request password reset

Resources

- GSP Rolls-Royce orientation
- Supplier diversity registration







LOGIN

Rolls-Royce news

Date	Headline
21 Mar 2014	Rolls-Royce to supply design and integrated systems package to Cosco
19 Mar 2014	Rolls-Royce to power Asia's first gas powered tug
14 Mar 2014	Rolls-Royce Statement

[See all news](#)

Notices to suppliers

Date	Num	Title	
14 Feb 2014	NTS355	SABRe labelling requirements for serialised materiel	
24 Jan 2014	NTS354	Requirements relating to electronics sourcing and supply chain control	
17 Jan 2014	NTS353	Importer Security Filing (ISF) Instructions	
01 Dec 2013	NTS352	2013 Holiday Notice	

[See all notices](#)

Rolls-Royce

Getting started – SABRe/RRES 90009

Rolls-Royce Global Supplier Portal

Home/Login Useful links Supplier documents

General links
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Standards and specifications

A secure repository of standards and specifications Rolls-Royce requires of its supply chain in order to fulfil purchase or contract orders.

Welcome to the global standards and specifications
This website is a repository of Rolls-Royce standards and specifications required by its supply-chain network to fulfil particular purchase or contract orders placed by the company.

These standards and specifications are available to approved Rolls-Royce suppliers world-wide, 24 hours per day, 7 days per week.

The documents are held in a secure web enabled system, to protect the Intellectual Property Rights of Rolls-Royce plc data and its product information.

[Global NDT specification change awareness \(367 Kb\)](#)

Manufacturing laboratories catalogue
The information listed in the file below details the approved metallic material, Casting and forging Suppliers plus a global consumables catalogue.

The availability of these documents enables suppliers to directly access specifications information without the need to access Rolls-Royce specifications that are password protected.

[MLC101 Index of approved metallic material suppliers, casting and forging Suppliers \(47 Kb\)](#)

[MLC 104 Global consumables catalogue new manufacture \(883 Kb\) **UPDATED**](#)

Export control
Please note, due to export control and government regulations, separate authorisation is required to access each set of specifications.

Accessing the global specifications and standards
Access to the SDRO is given to Rolls-Royce approved suppliers only.

Personnel based at suppliers who have been granted access to the SDRO documents, must notify Rolls-Royce if changes to access rights are required.

Personnel who are due to change positions in their organisation, or pending termination of their employment, or wishing to replace an existing nominee, should contact the SDRO team regarding any changes required.

Note, any unauthorised person who uses a nominee's access rights could be prosecuted.

[SDRO Europe»](#)
[NASSIS North America»](#)

Supplier documents home
[SABRe \(Edition 2\)](#)
[RR Nuclear Suppliers](#)
[Aerospace MRO Engine Repair Suppliers](#)
[Terms of business](#)
[Standards & specifications](#)
[SDRO \(Europe\)](#)
[NASSIS \(North America\)](#)
[How to register](#)
[Terms of use](#)
[Nadcap approval status](#)
[Notices to suppliers \(NTS\)](#)
[Help](#)
[FAQs](#)
[Supplier training](#)
[REACH](#)
[Privacy and security](#)



Rolls-Royce

SABRe

SABRe  **Rolls-Royce**

Supplier Management System Requirements

Revision 1
1 July 2012

Edition 2



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Rolls-Royce

1 Purpose

SABRe Supplier Management System Requirements is the supplier-facing element of the Rolls-Royce Management System

The purpose of SABRe Supplier Management System Requirements is to formally communicate Rolls-Royce requirements and expectations to the global supply chain and is available to view and download from the Rolls-Royce Global Supplier Portal (GSP) <https://suppliers.rolls-royce.com>

2 Contents, scope and applicability

SABRe Supplier Management System Requirements comprises of three (3) chapters and is applicable to all suppliers or partners who supply product related to Rolls-Royce contracts / purchase orders as follows:

Chapter A - General Requirements

Is modelled upon the structure of ISO9001 (clause titles 4 to 8) and shows the additional general requirements and expectations of Rolls-Royce

Chapter B - Product and Production Process Requirements

Has commonality with AIAG's APQP (Advanced Product Quality Planning and Control Plan) but differences exist given the distinctive requirements of Rolls-Royce

Embodies the concepts of error prevention and continual improvement that will be used to 'Build In Quality' into the production processes as contrasted with error detection and is applicable as follows:

- > New Product Introduction (NPI)
- > Product Introduction (PI)
- > Suppliers who currently supply product ([also see B5.1](#))

Chapter C - Production Product Approval Process

Enables a supplier to obtain production product approval from the customer

Has commonality with AIAG's PPAP (Production Part Approval Process) but differences exist given the distinctive requirements of Rolls-Royce and is applicable as follows:

- > New Product Introduction (NPI)
- > Product Introduction (PI)
- > When requested by the customer.

3 Definitions

Refer to SABRe definitions for additional information. This document is available to view and download from the Rolls-Royce Global Supplier Portal (GSP) <https://suppliers.rolls-royce.com>

4 Forms and form templates

Forms and form templates are available to view and download from the Rolls-Royce Global Supplier Portal (GSP) <https://suppliers.rolls-royce.com>

- > **FORMS** refer to the forms that shall be used in accordance with the relevant section of this document
- > **FORM template** refers to available templates that can be used in accordance with the relevant section of this document. However, the supplier's own form may be used when shown to be similar / equivalent.

B2 Product design and development

B2.1 Product design and development

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 this document and / or the Rolls-Royce contract / purchase order.

The supplier shall:

Comply with the requirements of RRES 90009 - Requirements for design & development activities.

B2.2 Control of design changes

↳ Design Control is applicable to:

- > 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 B4.6](#)).

The supplier shall:

- a) Ensure design changes are authorised by their Rolls-Royce technical authority before implementation (including verification and validation as appropriate)
- b) Complete and submit the form(s) associated with this activity to their Rolls-Royce technical authority (see forms below) with all applicable information at each stage of implementation
- c) Ensure that configuration management related to design changes are controlled
- d) Maintain records of design changes as category 'A' ([see A1.4](#)).

FORMS ([see section 4](#) on page 2)

B3 Production design and development

B3.1 Process flow diagram


The supplier shall:

Develop and document the production process flow, from the beginning of the process up to the delivery of the product, that includes (but is not limited to) the following:

- > Process operational sequence related to the production of the product
- > Processes requiring a qualified operator
- > Identification of external (purchasing / subcontract) activities
- > Where in the process product verification is performed ([see B4.1](#))
- > Where in the process performance metrics are recorded ([see B5.2](#))
- > Configuration management

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.

RRES 90009

 Rolls-Royce	ENGINEERING SPECIFICATION	RRES 90009
		Revision: H
		First issued 25 Mar 2008
		Revised 17 May 2016
Requirements for Design and Development Activities		
TABLE OF CONTENTS:		
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Rolls-Royce

Scope.

- The Design and Development process applies to suppliers authorised by Rolls-Royce to create design definitions, using their own design rules and standards.
- Design definitions may range from simple mechanical components to software and complex electronic or mechanical assemblies.
- Note that Design Definitions are complete and detailed descriptions of a product including its functional characteristics, supply chain, cost - as well as how to make, operate, maintain, support it in service and disposal.



Rolls-Royce

The Design & Development Process.

- The process covers the requirements of Rolls-Royce design processes in the following areas:
 - Organisation and Resource management
 - Programme Management
 - Design
 - Design Verification
 - Validation



Rolls-Royce

The Design & Development Process

- Rolls-Royce shall initiate work with the supplier to develop a product concept.
- Rolls-Royce will define any contract specific process requirements.
- Rolls-Royce will indicate on a compliance matrix the RRES 90009 requirements applicable to the supplier's products/ programmes.
- The supplier shall assess their Quality Management System against the applicable requirements, and make any necessary updates.



Rolls-Royce

Rolls-Royce Requirements for Design & Development Activities.

- As a result of service and product development experience, Rolls-Royce recognises that rigorous and meticulous control over all activities and organisations contributing to the product design are essential in reducing risks to product integrity, reliability, quality and business continuity.
- Rolls-Royce requires that the design practices owned by a supplier, (including control of sub-tier suppliers), are at least equivalent to its own.



Rolls-Royce

Rolls-Royce Requirements for Design & Development Activities.

- Design and Development Suppliers shall ensure that they and their supply chain comply with the following requirements:
 - Rolls-Royce Engineering Standard in RRES 90009, RRES 90014 and RRES 90052 (as applicable).
 - Technical Requirements - The Product requirements produced by Rolls-Royce through engagement with Rolls-Royce Customers and the Supplier.
 - Any additional contract specific process requirements.



Rolls-Royce

Technical Requirements

- The supplier shall agree with Rolls-Royce the technical requirements (*Product requirements produced by Rolls-Royce through engagement with Rolls-Royce and the supplier*)
- Top level requirements from Rolls-Royce are expressed in a Project Requirement Document or Business Requirements Document which is used to help develop the technical requirements.
- The technical requirements may be expressed by a single Technical Requirements Document (e.g. Component Requirements Document, Envelope Drawing, Request for Proposal, Standards Document or any combination of these)



Rolls-Royce

Technical Requirements

Technical requirements will include (but are not limited to):

- Functional and performance requirements
- Reliability, integrity and life requirements
- Environmental requirements (space, thermal, vibration, etc.)
- Applicable statutory and regulatory requirements
- Applicable Rolls-Royce design policies (e.g. safety)



Rolls-Royce

Contract Specific Requirements

- The supplier shall agree with Rolls-Royce any additional contract specific process requirements and shall ensure that these requirements are detailed in the supplier's contract with Rolls-Royce.



Rolls-Royce

The ESID

- The Supplier shall produce and agree with Rolls-Royce an ESID including the completed, Compliance Matrix
- The supplier shall agree with Rolls-Royce the applicability of each RRES 90009 ,90014 & 90052 requirement to the products/programmes of a supplier through the development of the Compliance Matrix included within the ESID
- The ESID (including the Compliance Matrix) must:
 - Demonstrate that the Supplier's design practices give a satisfactory means of compliance to RRES 90009, RRES 90014 and RRES 90052 (as applicable)
 - Demonstrate means of compliance to any additional requirements.
 - Describe interfaces, communications and limits authority between the supplier and Rolls-Royce



Rolls-Royce

ESID - Update.

- The ESID must be updated as a result of:
 - New or evolving requirements
 - Supplier Quality System improvements
 - Additional scope or new business
- The ESID should cover as many Rolls-Royce global projects / applications as possible.
- Encourage process commonality across a Supplier's Rolls-Royce projects / programmes, minimising differences



Rolls-Royce

The Design & Development Process.

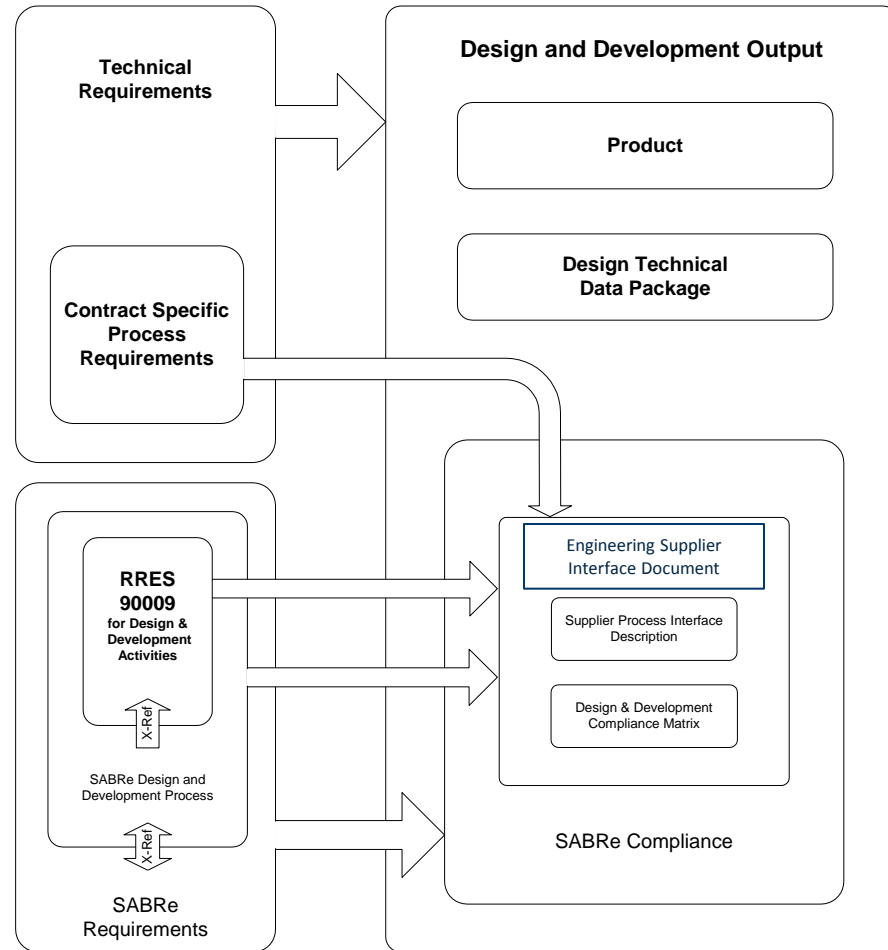
- The Supplier shall operate as defined within the ESID.
- The Supplier shall adhere to Rolls-Royce's Component Technical Review Process through satisfaction of the Technical Review Requirements in RRES 90009, RRES 90014 and RRES 90052 (as applicable).
- The Supplier shall ensure the ESID remains up-to-date and compliant.
- Rolls-Royce will perform regular surveillance activities to verify the Suppliers compliance to the ESID and assess changing supplier capability.



Rolls-Royce

Relationship Diagram

The relationships between the management controls (Requirements, ESID, Compliance Matrix etc), within the scope of the design and development process, are detailed in the relationship diagram.



Rolls-Royce

RRES 90009

RRES 90009 Clause Topic	RRES 90009 ref.
Organisation and Resource Management:	6.1
Programme Management:	6.2
Requirements Management:	6.3.1
Design Methods and Tools:	6.3.2
Technical Reviews:	6.3.3
Design Technical Data:	6.3.4
Product Safety/ Failure Reporting and Corrective Action System (FRACAS):	6.3.5/6.3.25
Sub-tier Approval and Control:	6.3.6
Export Control, Intellectual, and Other Property:	6.3.7
Materials Definition and Control:	6.3.8
Materials and Manufacturing Processes to be avoided:	6.3.9



RRES 90009

RRES 90009 Clause Topic	RRES 90009 ref.
Control of Special Processes:	6.3.10
Control of Design Changes:	6.3.11
Non-Conformance/ Control of Salvage Schemes:	6.3.12/6.3.13
Design Source Changes/ Engineering Control of Manufacturing Source and Method:	6.3.14 /6.3.15
Component Proving/ Non-Destructive Evaluation:	6.3.16/6.3.17
Supplier Use of Finished Parts:	6.3.18
Serialisation of Parts:	6.3.20
Repair Schemes:	6.3.21
Document and Data Retention:	6.3.22
Disposal:	6.3.23
Configuration Control:	6.3.24
Service Bulletins:	6.3.26
Design Verification:	6.4
Certification Testing:	6.4.6
Acceptance Testing	6.4.7

