Interface Control Document

RIBA (or GRIP) Level X Between Package/System 1 AND Package/System 2

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Document History:

Revision:	Date:	Prepared by:	Checked by:	Approved by:	Reason for Issue:
1.0	*DD-MM-YY*	*Author*	*XXXXXX*	*XXXXX*	*XXXXXXXXXXX*

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Interface Control Document Sign-Off

Reviewed by:

Name:	
role:	*Other Parties as required [add more boxes if further reviewers required]*
organisation:	
signed:	
date:	

Agreed by:

name:		
role:	*Package/System1 Design Manager*	*Package/System 2 Design Manager*
organisation:		
signed:		
date:		

Contents

Notes on Completion of this Template

This template provides guidance to Designers and presents a structured format to fully describe an interface and to capture the relevant data in order to minimise misunderstandings and omissions. The process is described in the document; Central Section – Procedure for Interface Management, CRL1-XRL-O8-GPD-CR001-50001

Blue text has been used to identify instructions for the creation of content - These should be deleted from the final document.

Changes from the previous ICD template are;

- To address the remaining elements of interface design by Design and Build Contractors
- Move from a narrative format to a more tabular format to avoid verbose material.
- Reduction in the number of headings and sub-headings to avoid duplication of data.

ICDs cover design interfacing of system, physical, information and staging design interfaces. Interfaces are part of the specification and design of each package/system and the ICD is the primary means of capturing the agreed interface by clearly referencing those documents.

It is the Designer's responsibility to develop the Interface Control Document in conjunction with the relevant interface parties so as to fully describe the interface. The template cannot specifically reflect any one interface and, as such, provides a generalised structure. The headings and content will be developed by the Designers to suit the asset, system or equipment needs. Before completion of the Interface Control Document the author should complete the front sheets, headers & footers and update the contents list.

ICDs are not to be used to make changes to requirements or designs. Formal change control and communication with the appropriate Engineering Manager is the correct route if change needs to be accommodated. If changes are formally accepted, the ICD should reflect the changes in regards to the interface.

The structure given here is not necessarily exhaustive and other headings, sub-headings, and information should be included within the document as appropriate for the interface being specified.

1 Introduction

1.1 Purpose of the Document

The purpose of this Interface Control Document is to document and formalise the agreement between organisations that are responsible for the definition and/or design of assets or systems that interface or share a common boundary.

1.2 Current Status

A simple statement to explain the status of this version of the ICD in terms of design development stage and highlight any areas of disagreement that may exist and plans for resolution. The final ICD should have no disagreements.

1.3 Interface(s) Covered by this Document

This Interface Control Document defines the interface between *Package*/*System 1* and *Package/System 2*.

Provide a simple list of the primary aspects that this ICD covers, consider items such as; geographical location, system and equipment boundaries, and functionality in design. If the ICD groups multidisciplinary interfaces, provide summary details of these interfaces and how the ICD is sub sectioned to aid its reading.

A drawing or diagram can be included which highlights clearly what is included for each party and where the interface boundaries are. Use may be made of pre-existing drawings either through inclusion or reference. If appropriate, the drawing can be included as an appendix to the ICD

1.4 Definitions and Abbreviations

ICD	Interface Control Document
	Complete as required

2 Interface Specifications and Agreements

The interface described in this ICD is captured in the specifications and deliverables produced by each interfacing Contractor as referenced in the sections below.

2.1 Sub-heading 1

Provide a table to capture the following headings;

- Interface item number (to distinguish the interfaces in the ICD)
- Brief Interface descriptor including type of interface
- Sub-item from Package/System 1 heading
- Sub-item from Package/System 2 heading
- Document Reference(s) specifically covering the interfaces.
- Notes

See example below.

The use of references to relevant documents, drawings and specifications is important so that information is not captured in more than one place. Include the versions of the referenced documents to aid with interface control.

Do not append items such as emails or meeting minutes, but rather ensure any agreements are captured in the specifications and drawing that are referenced.

The ICD will generally cover one or more of the types of interface described below.

Physical and Space-proofing Interface – e.g. Accommodation of equipment in equipment rooms / Connection of Bored Tunnel to Station Box/ Cable routes and management. The specifications and/or designs should include relevant physical characteristics and requirements. The following are suggestions for inclusion and checking but the content will depend on the equipment/system described and the nature of the interface.
Physical coordination and connections, Tolerances, Detailed geographic location including access requirements, Dimensions and Layout such as size, weight, and physical layout, Space proofing, Heat dissipation and ventilation requirements, Cable routing and cable management requirements and constraints, Fixing Arrangements, and Materials constraints.

System Interfaces – e.g. SCADA system to Ventilation system interface / Provision of power to systems. The specifications and designs should include descriptions and requirements of what the system/equipment does and the functionality of the interface(s) covered by this document. The following are suggestions for inclusion and checking, but the content will depend on the equipment/system described, the nature of the interface, and the level of detail achieved, Identification of Interfacing subsystems or entities, Any intervening or carrier systems, Performance across the interface, Data/Flow Transfer, such as Interface Standards employed, Protocols, Message Structure, Timings, Data Rate, Bit Error Rate, Control Mechanisms and Logic states, Fault/Error Conditions/expected reaction of interfacing systems, Electrical Characteristics, Power Supplies and characteristics, Terminations, EMC, and Earthing and Bonding

Staging Design for Interfaces - e.g. Staging or sequencing impacting an interface / Slewing of DLR tracks due to new Crossrail track alignment
The specifications and designs should include relevant constructional characteristics, constraints, and requirements required of the design. The following are suggestions for inclusion and checking but the content will depend on the equipment/system described and the nature of the interface. The focus must be on issues relating to the interface.
Any proposed staging or sequencing of the works, Any design works that will be temporary to overcome particular issues, Asset Protection design parameters.

Information Interface – e.g. Settlement data for modelling / common design item data. This section should only be used where the interface is informational, and not already included in one or more of the above categories.

Example Interface Specifications and Agreements

I/F number	Descriptor	Package/System1	Reference	Package/System1	Reference	Notes
001	Cable management system	C5XX	eB/////	C6XX	eB/////	Covers …. route from tunnels to the OHLE equipment in the…..
002						
….						
00X	Detailed power requirements for Signalling equipment	C6XX	eB/////	C5XX	eB/////	… data provided to enable C5XX to finalise design of LV power supplies
…..						
…..						

2.2 Further sub-headings (if required)

3 Verification and Validation

Design verification includes the review and sign-off of ICDs by both interfacing parties and the sign-off (usually by Decal) by the CRL Engineering Managers. It is also one of the eventual outcomes of interface meetings and/or workshops, and the completion of IDRs, and subsequent certification (IDC). Indicate here which IDR meeting and Certificate this agreement is associated with.