



INTEGRATION ENGINEERING SAFETY MANAGEMENT

Crossrail Engineering Safety Management Reference Manual

Document Number: CRL1-XRL-O8-GML-CR001-50001

Current Document History:

Revision:	Effective Date:	Author(s) (‘Owner’ in eB *)	Reviewed by: (‘Checked by’ in eB *)	Approved by:	Reason for Issue:
5.0	04/10/2016	S James	Chi Wong	Jeremy Bates	Update to reflect latest document revisions.

Previous Document History:

Revision	Prepared Date:	Author:	Reviewed by:	Approved by:	Reason for Issue
1.0	21-09-11	K. Harvey	C. Bloxsome	M. Kilby	Issued for peer review
2.0	24-07-12	K. Harvey	C. Bloxsome	M. Kilby	Implementation.
3.0	15-11-12	K. Harvey	C. Bloxsome	M. Kilby	Post internal review
4.0	21-03-13	S. Archbold	C. Bloxsome	J. Patel	For Issue

Revision Changes:

Revision	Status / Description of Changes
5.0	<p>CRL1-XRL-O8-GPS-CR001-50005 applies to FDC only – Historic (not updated)</p> <p>CRL1-XRL-O8-GPS-CR001-50006 has not been updated as this has been withdrawn (covered by other CRL processes)</p> <p>CRL1-XRL-O8-STP-CR001-50007 (Engineering Safety Management - System Safety Plan Implementation Strategy) has not been updated.</p> <p>CRL1-XRL-O7-GUI-CR001-50002 (Engineering Safety Management Competency Assessment Guidelines) is applicable only to the CRL ESM team.</p> <p>CRL1-XRL-O8-STP-CR001-50030 (Crossrail End to End Safety Justification and Assurance Strategy) has been added to Rev 5.0 of this document.</p> <p>CRL1-XRL-O8-GPS-CR001-50011 (Crossrail Process for Managing Interoperability Requirements) has been added to Rev 5.0 of this document.</p> <p>CRL1-XRL-O8-RGN-CR001-50031 (Adoption of New Technical Specifications for Interoperability) has been added to Rev 5.0 of this document.</p>

PREFACE

This manual lists the documents, plans and process procedures which describe the Engineering Safety Management (ESM) system for the central section of the Crossrail Project.

The principal document is the CRL System Safety Plan (CRL1-XRL-O7-GST-CR001-00001) which outlines the policy, strategy and responsibilities for assuring effective Engineering Safety Management throughout the Project delivery.

The format of the manual does not append copies of the documents, plans or process procedures but provides a contents list referring to the current versions of these held on the CRL document control system, eB. The manual will be updated following revision of the listed documents, or if new process procedures are prepared.

Those having relevant responsibilities in the CRL System Safety Plan shall ensure that Engineering Safety Management is carried out in accordance with the up to date version of this ESM reference manual and the documents listed therein.

Any queries regarding the application of the manual should be addressed to the CRL Head of System Safety and Interoperability.

CONTENTS OF MANUAL

Document Number	Rev	Document Title	Approval Date	Document for use by		
				CRL	FDC	D&B
CRL1-XRL-O7-GST-CR001-00001	5.0	Engineering Safety Management – System Safety Plan	14/07/2016	✓	✓	✓
CRL1-XRL-O8-STP-CR001-50007	3.1	Engineering Safety Management - System Safety Plan Implementation Strategy	25/11/2013	✓		
CRL1-XRL-O8-STP-CR001-50030	1.0	Crossrail End to End Safety Justification and Assurance Strategy	07/09/2016	✓		✓
CRL1-XRL-O8-GPD-CR001-50002	3.0	Engineering Safety Management - Hazard Management Procedure	18/05/2016	✓	✓	✓
CRL1-XRL-O8-GPD-CRG03-50001	4.0	Crossrail Delivery Contracts Standard Engineering Safety Management Requirements Specification	14/07/2016	✓	✓	✓
CRL1-XRL-O8-XWI-CRG03-50002 (Appendix 1 to CRL1-XRL-O8-GPD-CRG03-50001)	3.0	Project Works Information Volume 2B, Part 32, Contractors Engineering Safety Management Requirements (Systemwide)	14/07/2016	✓		✓
CRL1-XRL-O8-XWI-CRG03-50005 (Appendix 2 to CRL1-XRL-O8-GPD-CRG03-50001)	2.0	Contractors Engineering Safety Management Requirements (Stations, Shafts and Portals)	21/03/2013	✓		✓
CRL1-XRL-O8-GPS-CR001-50013	2.0	Project Wide Hazard Record Process	23/05/2016	✓	✓	✓
CRL1-XRL-O8-GPS-CR001-50024	1.0	Technical Note on the use of Project Wide Hazard Review (PWHR) in Engineering Safety Management (ESM)	18/05/2016	✓	✓	✓
CRL1-XRL-O8-GPS-CR001-50010	2.0	Guidelines and Etiquette for Undertaking HAZID and HAZOP Workshops	18/05/2016	✓	✓	✓
CRL1-XRL-O8-GPS-CR001-50002	2.0	Crossrail Process and Format for Product Breakdown Structures for Systems	18/05/2016	✓		✓
CRL1-XRL-O8-GPS-CR001-50003	3.0	Crossrail Common Safety Methods Hazard Assessment Process	18/05/2016	✓	✓	✓
CRL1-XRL-O8-GPS-CR001-50004	3.0	Crossrail Process and Format for Engineering Safety Justifications for Systems	18/05/2016	✓	✓	✓

Document Number	Rev	Document Title	Approval Date	Document for use by		
				CRL	FDC	D&B
CRL1-XRL-O8-GPS-CR001-50025	1.0	Requirements for the Creation, Format and Provision of a Design Engineering Safety Justification	18/05/2016	✓	✓	✓
CRL1-XRL-O8-GPS-CR001-50005	1.0	CRL Technical Directorate - Crossrail FDC Assurance Stage Gate Engineering Safety Management Review Process HISTORIC	22/06/2011	✓	✓	
CRL1-XRL-O8-GPS-CR001-50006	1.0	CRL Technical Directorate - Crossrail Delivery Contracts Engineering Safety Management Surveillance and Audit Process HISTORIC - WITHDRAWN – covered by existing CRL Procedures	21/09/2011	✓		✓
CRL1-XRL-O8-GPS-CR001-50009	2.0	Crossrail Hazard Review Panel Terms of Reference	18/05/2016	✓		
CRL1-XRL-O8-LLG-CR001-50001	2.0	Crossrail Safety Issues File (SIF) and Action Tracker Report	21/02/2012	✓		
CRL1-XRL-O8-GPS-CR001-50007	2.0	Crossrail Process and Format for Comparative Risk Assessments	18/05/2016	✓	✓	✓
CRL1-XRL-O8-GPS-CR001-50012	1.0	Crossrail Process and Format for Overall Safety Justifications	13/03/2012	✓		
CRL1-XRL-O8-GPS-CR001-50014	2.0	Crossrail Design & Build Contract Assurance Stage Gate Engineering Safety Management Review Process	18/05/2016	✓		✓
CRL1-XRL-O8-GPS-CR001-50015	2.0	Crossrail Review and Approval of Contract Engineering Safety Management Deliverables	18/05/2016	✓	✓	✓
CR-XRL-O8-GUI-CR001-50001	1.0	Engineering Safety Management Competency Assessment - Guidelines	07/10/2016	✓		
CRL1-XRL-O-GUI-CR001-50005	2.0	Engineering Safety Management Steering Group Terms of Reference	18/05/2016	✓		
CRL1-XRL-O8-GPS-CR001-50011	2.0	Crossrail Process for Managing Interoperability Requirements	24/06/2016	✓		✓
CRL1-XRL-O8-RGN-CR001-50031	2.0	Adoption of New Technical Specifications for Interoperability	24/06/2016	✓		✓

Key

FDC – Framework Design Consultants

D&B – Design and Build Contractors