

# INTEGRATION

## Railway Integration Review Point Process

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4.0	03-10-17	G Georgiou	J Bates	C Binns	2 Year review and adjustment of RIRP dates and definitions

**Previous Document History:**

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1.0	09-03-12	Jim Claxton	David Duncombe	Siv Bhamra	For Review
2.0	21-06-12	Jim Claxton	Jeremy Richold	Siv Bhamra	Updated following changes to RIA process
3.0	28-04-14	G Georgiou	J Bates	J Bates	Updated assessment method

**Revision Changes:**

<b>Revision</b>	<b>Status / Description of Changes</b>
4.0	This document has been reviewed and is fit for continued use. RIRP7-10 descriptions have been amended and RIRP11 & 12 have been deleted, as per the agreement reached at the RIA review in July 2017

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## **1 Purpose**

This document describes the process by which Railway Integration Review Points are managed and the activities that are to be carried out at each review point.

## **2 Scope**

This process applies across the whole Crossrail Programme.

## **3 Definitions**

**Railway Integration Review Point:** – a defined point in the programme at which a review will be carried out across all work streams to provide evidence that:

- The works will be integrated and deliver the Employer's Requirements baseline
- The works take account of the current Operations Concepts baseline
- The works have reached a defined standard of development as detailed in the Assessment Criteria
- The interfaces between the various works are developed to Assessment Criteria
- The assurance evidence has been produced and accepted to the Assessment Criteria

The Railway Integration Review Points are not “stop/go” gates. The aim is to review the status of the programme and identify new integration risks, and agree any recovery actions.

**Assessment Criteria:** these will be developed for each Review Point and presented to the Railway Integration Authority (RIA) and other relevant parties prior to the commencement of the review.

The Assessment Criteria for each RIRP will be recorded in eB by the RIA Co-ordinator.

The detailed criteria will be developed and agreed by the relevant discipline leads for issue to the RIA at least two months prior to each integration review point.

## **4 Roles and Responsibilities**

### **4.1 Head of Integration**

The Railway Integration Review Point process is owned by the Technical Director and executed by the Head of Integration.

### **4.2 RIA Co-ordinator**

The RIA Co-ordinator is responsible for developing the RIRP Process (this document), facilitating the development of the Assessment Criteria for each RIRP, expediting the review process, and supporting the Head of Integration in producing the review report.

### **4.3 RIA Panel**

The RIA panel reviews the Assessment Criteria produced for each RIRP, endorses the measures and allocation of Responsible Assessors and Accountable Assessors, and ratifies the outcome and report when presented by the Head of Integration.

### **4.4 RIA Sponsors**

The RIA Sponsors are responsible for overseeing the assessment made by Responsible Assessors for a particular area as listed in the Assessment Criteria. Some of the detailed items will fall outside of the RIA Sponsors normal domain but it is important that the assessment of an area is coherent and managed by one individual who is also a member of the RIA panel.

### **4.5 Responsible Assessors**

The Responsible Assessors are listed against allocated measures in the Assessment Criteria for a particular RIRP.

The Responsible Assessors gather evidence to demonstrate the level of adherence to the Assessment Criteria, make a judgement as to the extent of conformance in accordance to the scoring scheme, and capture the issues/risks along with the recovery plans.

### **4.6 Accountable Assessors**

The Accountable Assessors are listed against allocated measures in the Assessment Criteria for a particular RIRP.

The Accountable Assessors agree the findings and judgement of the Responsible Assessors, and are accountable for implementation of the recovery plans.

## **5 Reviews**

The Assessment Criteria will be captured in a spreadsheet which will include the Scoring Scheme and facilities to capture the assessment.

The review process will rely on the collation of evidence from across the Crossrail Programme. The evidence shall collectively demonstrate that the works are integrated and have been developed to the standard expressed in the Assessment Criteria as endorsed by the RIA. Evidence will include *inter alia* commentaries and progress on the following areas:

- Railway Performance,
- Systems Integration,
- Control Centre,
- Handover (BIU),
- Operations,
- Maintenance,
- Surface Works and NR,
- Energisation
- Rolling Stock & Depots,
- Stations and Civils Works

These areas are illustrated in the Staged Railway Integration Plan [6], which also shows the major dependencies and how the RIRPs map across them.

In addition, the following will be assessed;

- Programme and Sequence,
- Technical Assurance,
- Safety and Quality.

The assessment, rationale, risks, issues, and associated recovery plans will be captured on the Assessment Criteria spread-sheet.

The integration reviews depend on the processes carried out under the Technical Assurance Plan [**Error! Reference source not found.**], the System Integration Management Plan [**Error! Reference source not found.**], the Project Test and Commissioning Strategy [3], and the System Safety Plan [**Error! Reference source not found.**].

The Review Report will form a narrative around the Assessment Criteria spreadsheet and focus on outstanding issues and an assessment of the risks they create. The information presented may be supplemented for individual milestones.

This will highlight the principal risks outstanding at the review point under the above areas. The RIA will discuss and agree mitigating actions for these risks and monitor their implementation through their normal processes – see [**Error! Reference source not found.**].

The Head of Integration will report the RIRP outcome to the wider Executive Management team.

## 6 Proposed Timescales

Railway Integration Review Points have currently been drafted with timescales as follows:

<b>Name</b>	<b>Timing</b>	<b>Headline Focus</b>
RIRP 1	Q4 2012	Systemwide ITTs Issued and RIA processes in place
RIRP 2	Q2 2013	All Stations and Systemwide Contracts Awarded
RIRP 3	Q2 2014	30% System Design Reviews Complete and Rolling Stock selected
RIRP 4	Q1 2015	Readiness for initial handover to Systemwide (installation begins) and CTOC readiness for Stage 0. 60% System Design Reviews Complete
RIRP 5	Q4 2015	Central Section commence Static Testing; Completion of FDO (Final Design Overview) reviews
RIRP 6	Q3 2016	Completion of Interfacing Projects and RCC Fit-Out'
RIRP 7	Q2 2017	Wrap-Ups substantially complete T – 1 year (approx) to Handover ETCS at HAL ready to support testing through to PADD S/S/P FDOs well underway Feedback from Stage 1 for Stage 2 Full Length Units/Depot on target for Stage 2
RIRP 8	Q2 2018	<ul style="list-style-type: none"> <li>• T- 3months (approx) to Handover</li> <li>• Dynamic Testing well underway</li> <li>• Safety Justification programme on target.</li> <li>• Train systems integration and training facilities.</li> </ul>
RIRP 9	Q2 2019	<ul style="list-style-type: none"> <li>• Operations Led</li> <li>• Integration readiness for Stages 4 respectively.</li> </ul>
RIRP 10	Q4 2019	<ul style="list-style-type: none"> <li>• Operations Led</li> <li>• Integration readiness for Stages 5 respectively.</li> </ul>

Each of the ten review points have been selected to be coincidental with areas of the programme at which either a significant commitment in expenditure is being made or which engender a change to operations or which are critical to the schedule. They will be subject to endorsement by the RIA. Further review points can be added if required by the RIA, at the discretion of the Technical Director.

## 7 Scoring Scheme

At each RIRP, the weightings and scoring scheme for the sections and detailed criteria will be developed and implemented within the Assessment Criteria spreadsheet. The weightings will

reflect the stage that the programme is in and relative importance of the individual areas (listed above in section 5).

The Scoring Scheme will also support the assessment of criteria in a traffic light format;

**Red** (less than 70% of criteria met),

**Amber** (between 70% and 90% of criteria met)

**Green** (equal or greater than 90%).

**8 Reference Documents**

<b>Ref:</b>	<b>Document Title</b>	<b>Document Number:</b>
1.	System Integration Management Plan	CRL1-XRL-O8-STP-CR001-50010
2.	Technical Assurance Plan	CRL1-XRL-O7-STP-CR001-50003
3.	Project Test and Commissioning Strategy	CRL1-XRL-O8-STP-CR001-50008
4.	Engineering Safety Management System Safety Plan	CRL1-XRL-O7-GST-CR001-00001
5.	Railway Integration Authority ToR	CRL1-XRL-O8-GPD-CR001-50004
6.	Staged Railway Integration Plan	CRL1-XRL-R-TSC-CRG01-50001

**9 Standard Forms / Templates**

<b>Ref:</b>	<b>Document Title</b>	<b>Document Number:</b>
A.	None	
B.		