



RESPONSE TO THE CROSSRAIL SPONSORS ON THE PROJECT REPRESENTATIVE SPONSOR SUMMARY REPORT – PERIOD 07 REPORT

Date of Issue (this paper): 29 November 2019

Issued to: Simon Adams, Head of Crossrail Joint Sponsor Team - Transport for London

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Approved by: Mark Wild, Chief Executive Officer – Crossrail Ltd

1. Purpose

- 1.1. The purpose of this paper is to provide the Crossrail Sponsors with Crossrail's response to the Project Representative's ("**PRep**") Sponsor Summary report. It has been produced in consultation with Crossrail subject matter experts. A list of consultees is attached at Appendix 1.
- 1.2. The report responded to in this paper is for the Period 07 FY2019-20 (15 September 2019 – 12 October 2019) report, issued and received on 14 November 2019.
- 1.3. To ensure Crossrail's comments can be mapped accurately to the PRep's comments, each header (typed in **bold**) has the relevant PRep paragraph reference number in brackets. For this Period, Crossrail has annotated the PRep's report to include paragraph references. This annotated report is attached as Appendix 2.

2. Opening Statement from the Chief Executive Officer of Crossrail Ltd

- 2.1. Crossrail continues to value the PRep's contribution to improving delivery and has therefore recommitted to proactively welcome the team into meetings, workshops and progress updates throughout the programme. Crossrail draws on the insights of the PRep team to inform areas of focus and intervention, and it values the opportunity to demonstrate this in the response to their reports.
- 2.2. It was disappointing that in Period 07 Crossrail declared a change in the cost and schedule forecast. However, the challenges ahead are well understood and the management team are focussed on interventions to improve the forecast wherever possible.
- 2.3. A continued priority for Crossrail through the next period is to ensure consistent understanding of the dates across all projects and areas of the programme. This is needed to support teams in making much needed progress.

3. PRep Key Areas of Concern in the Period

3.1. The PRep highlighted two key areas of concern for Period 07 (*Reference: 18.1 and 18.2*). The PRep noted that these remain unchanged from last period, and Crossrail's comments are in addition to those submitted in last period's response. Crossrail's comments are provided below.

PRep Concern: "a. We note the increasingly large number of issues with respect to handover paperwork and engineering assurance documentation. Could CRL demonstrate the alignment of current levels of production with the dates in the DCS?"

Crossrail Response: We have considered the time needed to achieve the necessary RAB(C) approvals in regards to Trial Running. There has been focus placed on the availability and quality of supporting delivery assurance evidence to improve confidence for the RAB(C) submission schedule going forward to Trial Running. Crossrail is now setting Engineering Safety Justification target dates not to be exceeded based on the Period 08 forecast and productivity, and will be proactively managing each project towards these submissions into Crossrail.

Crossrail has recognised the challenge faced with handover paperwork / assurance documentation, and in response the Chief Engineer is undertaking a considered two-week deep-dive at Tottenham Court Road to identify the key, systemic and thematic drivers for the issues. This is supported by a feedback structure back to the CEO, Technical Director and other individuals with the capability to direct change. This deep-dive will assist in determining and validating forecast production rates.

There is a consistent and significant level of transparency being exercised with respect to assurance and handover information. A Board Engagement Session was held on 26 November 2019, at which detail was provided to support a discussion on the scale and breadth of the handover paperwork/assurance documentation matter, and how CRL intends to manage the issue.

PRep Concern: "b. When does CRL believe it will have a detailed cost and schedule for the period of the project post-ROGS?"

Crossrail Response: Significant work is ongoing to plan the approach for delivering programme activities post-ROGS. This is currently contained within the Trial Running and Trial Operations 'Plans on a Page' (POAPs). While the DCS contains limited Trial Running and Trial Operations activities, there are planning tools held outside the schedule which underpin these POAPs and the DCS, such as Day-by-Day plans, in places by shift, for activities and allocated possessions. It is not anticipated that this detail will be overtly articulated in the DCS, but it does inform its summary activities.

Further work is ongoing to define and refine areas within the POAPs, including:

- Mobilisation activities for Trial Running and Trial Operations;
- Key Trial Running milestones to track performance, aligned to Exit/Entry Criteria for Trial Operations;
- Target Reliability Growth milestones;
- Key milestones to prove sufficient transitions reliability to successfully bid for stage 4 timetable change; and
- Key T-Minus dates for Trial Operations, including Go/No-Go decisions.

In addition, for Trial Operations there are a further two significant activities which will be reflected in the DCS:

- Reliability ramp-up during Trial Operations (interim milestones - TBC)

- Fixed dates for Volunteer Evacuation Trials (4x)

For Stages 4 and 5, there is increased granularity in the DCS with maturity increasing each period. A summary POAP has also been developed that is supported by NR programme plans. The schedule, costs and risks for Stages 4 and 5 have been developed and reported to the November Crossrail Board following progression over the last three periods, and the DCS is underpinned by more detailed activities (although not overtly shown) of NR and MTR.

CRL will present all above content as an integrated, end-to-end plan through all stages and capturing all elements, to the CRL Board in the New Year.

4. Matters necessitating Crossrail comment

- 4.1. Crossrail has the following comments on the PRep report, in a repeated order to the PRep's Sponsor Summary report.

HEALTH AND SAFETY PERFORMANCE (*Reference: 1.0*)

- 4.2. Crossrail has been working closely with its contractors to ensure safety performance is improved. Crossrail accepts that Tier 1 contractors are accountable for safety but believe that a collaborative 'one team' approach is the right way to obtain improvements. Crossrail launched its latest Stepping Up Week on 18 November. While Crossrail has set the core themes for the week, this was undertaken in coordination with contractors to ensure they are focusing on their site-specific issues during this week.
- 4.3. Both Routeway and SSP contractors are regularly held to account regarding their safety performance and there is evidence that incidents are being thoroughly investigated and improvement actions are being tracked through to completion.
- 4.4. Crossrail has undertaken a validation exercise of the Health and Safety Performance Index metrics. New guidance has been issued to the contractors to help them improve the quality of the activities that 'feed' the leading indicators.

FORWARD LOOKING APPROACH (*Reference: 3.0*)

- 4.5. The principle Performance Gaps that the Performance Team has identified are the critical risk areas that have the potential to drive variance to the schedule and cost baseline. These Performance Gaps have associated interventions that are being managed to address them. These are reported on periodically, and are subject to continuous monitoring and revision until the interventions being introduced are incorporated into business as usual.
- 4.6. Periodic sector schedule reviews, programme integration reviews and weekly visualisation sessions allow for medium term risks to be captured. These are assessed and quantified and associated interventions are developed, implemented and controlled to avoid these risks becoming issues or reducing their impact. Enterprise Risk Management, together with Horizon Scanning approach, also allows for medium to long term risks to be captured and mitigated.
- 4.7.  This is being worked through and once confirmed, will be implemented across the programme where appropriate.

4.8. Due to lessons learned from the Kentec fire panel issue, any issues identified during installation, testing or assurance stages are immediately escalated via the projects to programme level. Investigations are launched to review other Crossrail sites to confirm if there are any other potential issues.

T-MINUS PROCESS *(Reference: 4.0)*

4.9. Since the roll-out of the T-Minus process, Crossrail has now strengthened the governance around the Gates held.

4.10. This includes removing the self-verification approach from projects teams and using the Handover Team to independently assess progress at review meetings. This is already in place and has been demonstrated to give a more aligned view on readiness at projects such as Mile End Shaft and Royal Oak Portal.

TIER 2/3 CRITICAL RESOURCE MANAGEMENT *(Reference: 5.0)*

4.11. Regular Visualisation sessions are now in place and being used to coordinate and maximise productivity of the scarce Tier 2/3 suppliers. Positive interventions have been made on several sites to ensure project deliverables were met.

INTERNAL CROSSRAIL COMMUNICATIONS *(Reference: 6.0)*

4.12. Crossrail recognises the importance of providing clarity on the dates teams should be working to. Proactive steps are being taken to improve the clarity and consistency of communications, and maintain this going forward.

4.13. A programme of communications and engagement is already in place with both internal and supply chain audiences, using various forums and across a multitude of channels. Changes to the programme or updates following Board meetings or announcements are communicated to senior leaders, all staff, critical Tier 1, 2 and 3 supplier MDs. Regular sessions with the senior leadership team (top 50), Managing Directors from our critical supply chain, Project Managers and Project Directors provide Crossrail the opportunity to discuss progress against the schedule on a regular basis.

4.14. In addition to this established programme, Crossrail has scheduled an All Hands briefing for 2 December 2019 to ensure a consistent understanding of dates and the programme. Crossrail will use this event to test understanding and tailor its follow up activity accordingly.

4.15. Furthermore, Crossrail is working on a comprehensive 2020 communications strategy and plan across the entire reach of the Communications function.

CROSSRAIL ENGAGEMENT WITH PREP *(Reference: 7.0)*

4.16. Crossrail's management team welcomes the proactive approach of the PRep Team and value their insights on the project. If engagement or access is in anyway limited, Crossrail would encourage the PRep Team to raise a concern immediately and the management team will work to resolve it.

ASSURANCE, OVERSIGHT & EXTERNAL BODIES REVIEW *(Reference: 9.0)*

- 4.17. Prioritised completion of management system documentation, including procedures, is progressing well and project delivery is not being directly affected by the outstanding documents; however, Crossrail agrees with PRep that all outstanding documents, particularly those in commercial and controls, must be expedited in order to support timely and efficient delivery of the remaining works.
- 4.18. The TAR Reports were submitted to Crossrail Board on 07 November, the findings and recommendations of which featured prominently in the Board's considerations of cost and schedule matters. Crossrail believes the TARs were in fact output based as they were focused on the cost and schedule products themselves, not purely process, but Crossrail acknowledges that they did not (and were not intended to) provide an alternative view of out-turn cost and completion, which Crossrail understand is PRep's point here.

COST, COMMERCIAL & RISK *(Reference: 10.0)*

- 4.19. The cost overlay is calculated with reference to activity durations defined in the DCS schedule, which is developed by the teams delivering the work and widely reviewed and challenged by the rest of the organisation. Crossrail recognises however that the schedule is for the most part based on 'forecast' rather than 'historic' production rates. A significant component of the cost QRA is an assessment of prolongation cost that is made with reference to the QSRA, including an assessment of delay resulting from poor productivity. Crossrail agrees with the PRep that the AFCDC is highly dependent on the achievement of the schedule.
- 4.20. Crossrail welcomes the PRep's recognition of the work that is ongoing to improve maturity of the risk process and the specific improvements that are being implemented. A key focus of development is the area of programme risk where there is a need to identify, assess and manage risks within the programme functions including Technical (Chief Engineers Group and Assurance functions), Testing and Commissioning and Handover teams.

APPROVALS, ASSURANCE AND AGREEMENTS *(Reference: 12.0)*

- 4.21. We have considered the time needed to achieve the necessary RAB(C) approvals in regards to Trial Running. There has been focus placed on the availability and quality of supporting delivery assurance evidence to improve confidence for the RAB(C) submission schedule going forward to Trial Running. We are now setting ESJ target dates not to be exceeded based on the Period 08 forecast and productivity and will be proactively managing each project towards these submissions into Crossrail.
- 4.22. To commence Trial Running, RFLI stand up as the Central Operating Section (COS) Infrastructure Manager (IM). RFLI have a Change Assurance Framework defined and supported by a Change Assurance Panel (CAP). Crossrail will submit assured changes to the configuration of the Trial Running Railway to RFLI in line with this Change Assurance Framework. It is anticipated that the existing Crossrail safety and change review processes will be re-purposed to control the assured change that is then submitted to RFLI.

TRIAL RUNNING AND RELIABILITY GROWTH *(Reference: 13.0)*

- 4.23. P_D11+ was focussed on delivering functionality to support Trial Running rather than reliability. The assessment of its potential reliability is based on a sample of Dynamic Testing that approximates to Service Operation and faults that are likely to impact service. The actual performance of P_D11+ will not be clear until it is delivered and tested in the New Year.
- 4.24. The scope of Y600 (including P-D12+) is being finalised and the Reliability Team is working with Plateau to determine what faults can be addressed within it. A number of faults that may provide improvement have been identified and are being analysed as part of this process. Reliability is now an increasing focus of Plateau and the composition of Y600 and beyond.
- 4.25. A reliability growth curve at the end of November will be draft and focussed on train control software. It will be developed as systems are accepted and train mileage is increased through more intense testing. The Reliability Team is working with Plateau and the Testing team to agree how best to exploit any extending testing opportunities beyond January.

END

APPENDIX 1 – LIST OF CONTRIBUTORS

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Period 07 FY2019-20 (15 September 2019 – 12 October 2019), issued and received on 14 November 2019.

Advisor to the CEO
Advisor to the Deputy CEO
Chief Finance Officer
Chief of Staff
Communications Director
Cost Engineer (Project Delivery)
Crossrail Operations Business Manager
Deputy Chief Executive Officer
Deputy Programme Controls Director
Head of Assurance
Head of Employee and Supplier Communications
Head of Programme Delivery Strategy
Head of Project and Programme Assurance
Head of Risk
Head of Systems Integration
Health and Safety Director
Programme Controls Director
Programme Delivery Business Manager
Programme Director
Programme Transition Director
Testing and Commissioning Director

APPENDIX 2 – ANNOTATED PREP REPORT

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