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**Project Representative**  
**Jacobs**

16 April 2021

Dear ██████████,

**Re: Crossrail PRep Project Status Report 148 – Period 12**

I am writing in response to the P12 PRep Sponsor Summary cover letter.

As noted in your letter dated 1 April 2021, collaboration between CRL and RFLI has been successful in the period enabling significant deliverables to be achieved that are integral to transitioning into a ROGS environment. Following the achievement of this milestone, CRL and RFLI continue to carry out workshops, beginning the week commencing 12 April 2021, to discuss and agree the remaining scope. The output will form part of the programme baseline providing a stable platform on which to build schedule, cost and risk baselines for the commencement of Passenger Services. The workshops will also provide clear resolution on scope that is disputed or unconfirmed across all contracts, elements and chapters.

As CRL completes activities to enable the pivot from blockade-style maintenance to periodic maintenance and RFLI ensures a safe system of work is in place and the final acceptance of the Trial Running Railway Acceptance Case, the planned four-train per hour Trial Running testing is now planned for the ██████████. The effect of this on the programme is currently being assessed as part of the refresh of the Delivery Control Schedule. In order to achieve coherency across the programme, the Programme Change Panel has been deferred. This will allow for the exercise to produce the update to the Programme Baseline and the exercise to produce the Scope Book to be completed. This will enable the Panel to start in a mature form and allow it to focus on controlling change across the agreed strategy and plans from those exercises.

Two points have been identified as requiring further action or explanation. These cover how CRL will ensure schedule and cost are aligned within the organisation, including with the Tier 1 contractors and the supply chain, and what criteria will RfLI/CRL apply to ensure the most critical activities are prioritised so as not to impact the Trial Operations date. Responses to these two points are listed below:

- 1. In the finalisation of DCS v1.2, how will CRL ensure schedule and costs are aligned between its own and those of the Tier 1 contractors and the supply chain?**

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As CRL enter the final phases of the programme, work is ongoing to ensure there is a robust alignment of cost and schedule to go through the development of the Programme Baseline 1.2. The name reflects the integrated nature of this exercise, encompassing not just the 'DCS' schedule element but also cost.

Work is currently being undertaken to produce a consolidated Programme Scope Book which will finalise and document the remaining scope to be delivered. The scope book will bring together several sources, including the scope gaps list, any cost pressures previously identified and technical issues that need final resolution. During April and May, any remaining scope items will be examined, including ensuring alignment across projects and reviewing the timing for works and if they have been instructed to, and confirmed by, the relevant supply chain party and included within the CRL controls system of schedule and cost.

██████████ CRL will further refine the schedule and costs to ensure robust controls are in place in preparation for Trial Operations and Revenue Service. This will involve ensuring the schedule and costs reflects the scope to be delivered as set out by the Scope Book. Where required, the supply chain will be engaged to underpin the deliverability of any changes to the schedule or scope.

**2. With competing demands for entry into Trial Operations, what criteria will RfLI/CRL apply to ensure the most critical activities are prioritised so as not to impact the Trial Operations date?**

CRL acknowledges the Project Representative's concerns regarding the competing demands that may impact entry in Trial Operations. To mitigate this scenario effectively, the newly implemented Passenger Service Steering Group will manage the count down and activity planning to Trial Operations, providing recommendations to leadership and reviewing readiness assessments and escalations. This will include balancing competing demands between project activities to complete construction and commissioning, and operations activities to execute operations and maintenance.

I hope that this response provides a useful summary of the measures that are in place to address the specific issues you have highlighted. A more substantive response focussed on the contents of the Sponsor Summary report will be issued as an Appendix to this letter.

Kind regards,



**Mark Wild**  
CEO, Crossrail

Appendix – CRL Response to Period 12 PRep Report

Programme Response Category	PRep Period 12 Sponsor Summary Content	CRL Period 12 Response
<p><b>Key Observations in the Period</b></p>	<p>Routeway integration tests have been completed and software configuration TR2 Point Release 6+ has been commissioned successfully; no further functional testing is necessary to start Trial Running. The two stations required for Trial Running achieved their BIU and SC3 ROGS milestones: Farringdon Station on 5 March 2021 and Custom House Station on 15 March 2021. Paddington Station started its T-minus countdown to SC3 ROGS, and Liverpool Street, Tottenham Court Road and Woolwich Stations are also in progress.</p> <p>CRL met its [REDACTED] of 26 March 2021 for transition into ROGS, with RfLI now taking responsibility for System Operator and Infrastructure Manager under the new ROGS Rule Book. A [REDACTED] of Trial Running is due to start on [REDACTED], immediately after commissioning of the Great Western Fringe. The operation of an initial timetable service of 4 TPH is scheduled for [REDACTED], immediately following commissioning of the Great Eastern Fringe.</p>	<p>In line with the PRep’s comments, Routeway integration tests have been completed and software configuration TR2 Point Release 6+ has been commissioned successfully. No further functional testing is necessary to start Trial Running.</p> <p>As stated last period, the two stations required for Trial Running have achieved their SC3ROGS and subsequent BIU milestones. Paddington station has encountered assurance challenges and Authority to Use issues; these are currently being worked through successfully. The BIU date at Paddington station has been adjusted to align with the rest of the programme and to allow Paddington station to complete the necessary documentation and assurance requirements in readiness for handover to RfLI.</p> <p>Tottenham Court Road station has moved into T-4, Liverpool Street station is prepared for T-12 while Woolwich station has successfully moved into the T-12 phase.</p> <p>The Project Representative’s comments regarding CRL’s transition to a ROGS environment and the subsequent [REDACTED] [REDACTED] are agreed as accurate.</p>

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	<p>The T-minus process is maintaining its intense momentum and focus to meet the transition to the ROGS date and the start of the Trial Running period. The T-3 and T-2 reviews indicate that the main area of focus remains within Assurance, but also highlighted a late change in strategy requiring an Interim Maintenance plan for implementation in the first weeks after transition to ROGS. This will allow safety critical maintenance to be undertaken in the first [REDACTED] period prior to a controlled introduction of a timetable service. An important safety procedure for working safely on the high voltage electrical interfaces at stations and Routeway in the ROGS environment also requires clarity, agreement and briefing to all parties. Late receipt by CRL of RFLI's latest procedures may impact CRL's supply chain compliance with the new requirements. Clarity on safety procedures will be a major condition before scheduled works can take place in the ROGS environment.</p> <p>CRL's supply chain will support RFLI in undertaking interim maintenance in the initial [REDACTED] period post ROGS. This is required as a result of CRL's incomplete supply of Asset Data and maintenance records and previous block maintenance scheduling, that will become out of compliance immediately after entering ROGS. Training of sufficient contractor resources in safety supervisory roles to support the maintenance work is also an important concern.</p>	<p>Entry into a ROGS environment was achieved on 27 March 2021 as planned. Workshops are currently underway to attain final clarification for CRL ways of working under ROGS. This will be reflected in the safety procedures as required. Safety critical maintenance procedures whilst in the ROGS environment have been jointly agreed between CRL and RFLI. Communication and briefing of the procedures, rules and requirements have been undertaken with inclusion of relevant stakeholders and the supply chain. Assurance checks have been conducted extensively throughout T-4 to T0. The default position is 'fail safe'.</p> <p>CRL contractors have Supplementary Agreements in place to support RFLI during the ramp up period that includes completing the immediate maintenance requirement, associated records and inspections to have a baseline to work from. Access and possession management related training is ongoing with regular RFLI and CRL meetings coordinating specific requirements.</p>
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	<p>CRL might be constrained with the numbers it can both mobilise externally and train internally, to undertake the maintenance works in the initial period under ROGS.</p> <p>The safety assurance process has continued to be intricate, with multiple documents running concurrently, with dates and meetings rescheduled to accommodate the slow closure of Dependencies and StEJ process. The hierarchical critical documents that require acceptance by RAB(C) ahead of transition into ROGS include the COS SJ based on clearance of Dependencies, the CESAC at RAB(C), and the RfLI's safety documents and in particular RfLI's Rail System Non-Traction Power (RSNTP) and DoCoR. The agreement of RfLI's Interim Maintenance Plan also relies on the outcome of the assurance process.</p> <p>DCS v1.2 is currently under development. It will represent a significant refresh to CRL's control schedule, providing greater clarity and assurance through to Programme completion; to Trial Operations, Stage 3 Passenger Service and to Stage 4 and 5 opening. It is intended to confirm how the railway configuration is to be implemented, and to provide more certainty on the costs-to-go. Fundamental considerations in its development and assessing impact on the Trial Running period and Trial Operations date will be: capturing lessons learnt from the assurance process, implications of change in strategy in entering Trial Running, time</p>	<p>CRL notes the Project Representative's comments. The final concurrency of CRL and RfLI assurance documentation is being addressed through the updates to the RfLI Trial Running Railway Acceptance Case (TRRAC) and RfLI SJ. This is being carried out in conjunction with minor CESAC updates to cover the results of the interim Maintenance Plan prior to the commencement of timetabled Trial Running.</p> <p>CRL agrees with the Project Representative's comments and assessment of the Programme Baseline 1.2, formerly known as DCS 1.2. <b>As CRL enter the final phases of the programme, work is ongoing to ensure there is a robust alignment between cost and schedule to go through the development of the Programme Baseline 1.2. The name reflects the integrated nature of this exercise, encompassing not just the 'DCS' schedule element but also cost.</b></p>
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	<p>apportioned between RfLI planned maintenance, System Train Testing (STT), and completion of final infrastructure works. With the focus heavily on achieving Trial Running, it might not be possible currently to give the necessary team attention to deliver the earliest robust DCS v1.2, which is anticipated for the [REDACTED].</p> <p>The period to Trial Operations will be challenging, with a substantial volume of activities to complete in the Trial Running period that will include concurrent station delivery, and the deployment of a major software release (ELR100) as another crucial activity. Demand on resources in the peak summer months is expected as a result of a release from National lockdown and holiday season [REDACTED]. These provide collective challenges that have the potential to impact the start of Trial Operations.</p> <p>We remain concerned that, despite a slight improvement in station productivity, emerging schedule pressures continue in delivery. A review identified challenges with the delivery of four stations (Bond Street, Whitechapel, Paddington and Canary Wharf) for which mitigation measures will need to be developed.</p>	<p>The Programme Baseline 1.2, previously the DCS 1.2 will constitute more than just a schedule update to the DCS. It involves a wholesale refresh of programme components comprising of 12 focus area modules. For each module, it is anticipated that the Executive Sponsor and functional manager will run a series of working sessions, involving others as required to deliver the remit. Progress on these modules will be discussed at weekly Executive Steering Groups, escalating items as and when required. Plateau 1 and Plateau 2 meetings are on-going to monitor the station completion programme. The new programme baseline will also inform the required key resources to undertake critical activities over the coming months.</p> <p>CRL acknowledges the Project Representative's concerns regarding schedule pressures. Paddington, Canary Wharf, Bond Street and Whitechapel stations are all moving in a positive direction. This has not been stated to undermine the challenges at each of the aforementioned stations, particularly in relation to the impacts of</p>
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	<p>These are likely to include, further enhanced collaboration from all parties, streamlining and modification of the assurance process to suit the “tail end” activities, and earlier transition to IM handover. Concessions may be required to achieve the challenging dates for delivering Bond Street Station in time [REDACTED] for Trial Operations and Stage 3 Opening, if it is not to put at risk the broader railway opening for Stage 3 Passenger Service. While significant cost pressures remain across the stations, engaging the General Works Contractor by early April 2021 is anticipated to realise cost savings.</p> <p>CRL continues efforts to control scope. While there is still works to complete, the implementation of the Programme Change Panel by end of March 2021 and the anticipated Star Chamber [REDACTED] will benefit the Programme to better control scope and therefore its costs. However, these positive initiatives will require a few more periods before the full benefits will be realised.</p> <p>The impacts from the negotiated Supplemental Agreements for Liverpool Street, Farringdon, and Tottenham Court Road Stations, and prolongation in respect of C660, considered in preparation of the Period 12 AFCDC, result in a [REDACTED] increase to the Period 11 AFCDC of £15,885m. This increase has been subsequently reduced by the realisation of risk provisions and allowances to a [REDACTED] net increase to [REDACTED] for the Period 12 AFCDC.</p>	<p>Trial Running requirements and restrictions. Mitigations have been put in place which are being reviewed and supported by the Executive team and all relevant stakeholders. Each challenge is be addressed at the appropriate level and is being escalated as and when necessary.</p> <p>As part of an ongoing process to define the scope-to-go, CRL &amp; RFLI have arranged several workshops to produce Programme Baseline 1.2 programme freeze scope baseline. Star Chamber and the newly implemented Programme Change Panel will support any subsequent scope creep that that programme incurs.</p> <p>In Period 12, the AFCDC increased by [REDACTED] to [REDACTED]. The increase was predominantly driven by the inclusion of known cost pressures previously under review. Whilst supplemental agreements for Liverpool Street, Farringdon and Tottenham Court Road stations were included in the AFCDC in Period 12, the reductions in associated risk and provisions has already been recognised. The AFCDC this period also included for a reduction in Prolongation Risk aligned to the</p>
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	<p>However, the Period 12 EPPR4 proposed three options to further offset by Risk and CEO contingency adjustment to hold the AFCDC at £15,885m. We remain concerned that, at this late stage, the project AFCs and Indirect Costs do not yet include for all the efforts necessary to deliver the Programme. This is due to the emergence of new cost pressures and the impacts of lower than predicted delivery performance against the DCS baseline. The AFCDC does not seem to have given consideration to the volume of deferred works to be undertaken in the ROGS environment, and this is also a concern.</p>	<p>successful transition to an operational railway under ROGS .</p> <p>CRL recognises that project AFCs do not include for all potential activities required to deliver the programme and proactive steps are being taken to resolve any remaining scope ambiguity and agree the scope to be delivered for each project and across the programme. Activities and workshops are underway and will culminate in the production of a consolidated Programme Scope Book. This will bring together several sources containing items of concern. During April, any remaining scope items will be examined and brought to resolution, with close out only possible when a formally confirmed decision has been taken on the requirement and timing for work and they have been adequately instructed to, and confirmed by, the relevant supply chain party and included within the CRL controls system of schedule and cost.</p> <p>The AFCDC includes several cost and risk provisions to cover these additional items which are also under review. It remains too early to be confident that the programme risks and provisions will be sufficient.</p> <p>An assessment of the disruption introduced by the ROGS environment has been recognised in costs with risks applied in specific cases. Although it is too early to assess the impact definitively, it appears that issues with integrated access planning in the ROGS environment may have been greater than anticipated and this will</p>
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		be determined through the current activities underway.
<b>Health &amp; Safety</b>	<p>Four High Potential Near Misses occurred in Period 12 and, while the Safety Performance Indicator increased slightly, the overall indicators remain within those set by the Programme. SHEL101 marks the change to an operations and maintenance railway environment. CRL's continued vigilance against Covid-19 is seeing a steady decline in cases across sites.</p>	<p>The Project Representative's comments regarding Health and Safety performance in Period 12 are accurate. CRL agrees with the Project Representative's comments in relation to declining numbers of COVID-19 cases across sites.</p>
<b>Recovery Plan and Schedule</b>	<p>CRL continues to use the DCS v1.1 Base Case [REDACTED] for measuring Programme performance. A refresh to the control schedule is now required to reflect the period from Trial Running to Stage 3 Passenger Service to Stage 4 and 5. With conflicting demands on limited senior resources, the preparation and finalisation of DCS v1.2 to include CRL's update to the AFC by the end of [REDACTED] is likely to be a challenge.</p> <p>The critical path to Trial Running is being managed through the T-minus meetings. The T-4 and T-3 meetings have highlighted that completion of safety assurance activities is being compressed to become concurrent, as the [REDACTED] transition into ROGS and entry into Trial Running are maintained. RAB(C)</p>	<p>CRL agrees with the Project Representative's comments and notes the challenges this is likely to present.</p> <p>The Project Representative's assessment of the steps taken by CRL critical path to Trial Running is accurate. As stated above, the programme has successfully transitioned to a ROGS environment and a controlled commencement of Trial Running. CRL notes the Project Representative's concerns in relation to assurance deliverables. As stated previously, the dependency of RFLI</p>

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	<p>Acceptance of CRL’s COS SJ and associated Dependency closure achieved on 18 March 2021 is the precursor to the concluding CESAC document. RfLI’s assurance process continues to be heavily reliant on supporting information from CRL. The status of CRL’s maintenance records and Asset Data is a vital input to RfLI’s Maintenance Plan. The late receipt of these records, and other supporting information from the assurance process, is resulting in pressure on RfLI to complete its own assurance documents. While completion of the Declaration of Control Risk (DoCoR) represents a consequential risk at a late stage in the assurance process.</p> <p>DCS v1.1 indicates the critical path to Trial Operations remains [REDACTED] although Woolwich Station is close to the critical path, as is assurance of signalling software configuration ELR100. A final update to the COS SJ, CESAC and DoCoR, to take account of the completion of SC3 ROGS at the stations is also close to the critical path.</p>	<p>assurance documentation on provision of CRL evidence is being addressed through the updates to the RFLI TRRAC and RFLI SJ, along with minor CESAC update to cover the results of the interim Maintenance Plan prior to the commencement of a timetabled Trial Running phase.</p> <p>CRL agrees with the Project Representative’s comments and acknowledges the challenges this presents to the programme.</p>
<p><b>Handover Delivery and Assurance</b></p>	<p>SC3 ROGS and handover to RfLI was achieved for Farringdon Station on 5 March 2021, and for Custom House Station on 15 March 2021. This completes the two required stations to be at SC3 ROGS for the start of Trial Running. There are lessons to be learnt from the Farringdon Station process that are anticipated to be shared across the remaining stations, particularly related to concessions and follow through on commitments.</p>	<p>The Handover of Farringdon station to LU and BIU at Custom House formed part of CRL’s response to the Project Representative’s Period 11 Report. Subsequently, lessons learned have been shared with other Stations’ Project Managers to disseminate to their respective broader teams. The formal documents will be uploaded to CRL’s Document Management System, enterprise Bridge, in the coming weeks.</p>

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	<p>Only Canary Wharf and Bond Street Stations have yet to achieve their SC3 Milestones, which are forecast for [REDACTED] and [REDACTED], respectively. All other stations have now achieved SC3 and have either entered, or are preparing to enter, the T-12 countdown to SC3 ROGS and BIU.</p> <p>With the station shafts at Woolwich West, Bond Street West and Liverpool Street Stations removed from the declared configuration state for Trial Running [REDACTED].</p> <p>Liverpool Street and Bond Street Stations are progressing compliant documentation for the end of March and early April 2021, respectively. Woolwich West Station Shaft may require a pragmatic approach, if additional cost and schedule time is not to be incurred, which is currently not included in CRL's cost forecasts.</p> <p>Handover of Plumstead Maintenance Facility was achieved on 19 March 2021, with exception works to follow-up.</p>	<p>Canary Wharf station has completed the scope definition to achieve SC3ROGS in agreement with CRL and RFL. The T-minus process has been agreed and will imminently align the Ventilation Systems structured engineering judgements approval process for assurance. In parallel, CRL is working to get alignment of CEG and LUCT with the Assurance Programme and transfer of Bond Street station. This is planned for the end of April 2021.</p> <p>[REDACTED]</p> <p>As the Project Representative notes, Plumstead Maintenance Facility was handed over on 19 March 2021. [REDACTED]</p>
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<p><b>Stage 3 Trial Running and Trial Operations</b></p>	<p>Preparations for transition into ROGS and entry into Trial Running highlighted the criticality of Asset Data, completed maintenance records and planned maintenance to support RfLI's Maintenance Plan under ROGS. Finalisation of the interface Management Strategy for Station HV/LV electrical supplies is another high-risk area that requires clarity and agreement before starting works under ROGS. Completion of all RfLI's related safety assessment items is also critical to demonstrate readiness to enter ROGS.</p> <p>Initial preparations for Trial Operations remain on schedule, with the Passenger Service Steering Group (PSSG) scheduled to be effective immediately after transition into ROGS.</p> <p>SIDT ended in mid-March 2021 as planned, with the timetabled operation of up to 8 trains completing 94% of planned mileage and achieving 88% PPM. Overall, the implementation of SIDT (effectively a period of Trial Running activities undertaken during Dynamic Testing) developed the confidence and skills of RCC staff and was considered beneficial to Programme delivery and should contribute positively to Trial Running.</p>	<p>With CRL now operating under a ROGS environment, all SJs and associated safety dependencies were either tracked to closure through the required evidences or subjected to joint structured engineering judgements by CRL and RfLI to identify acceptable mitigations in readiness for the ROGS transition. All required SJs were accepted by RAB-C ahead of CRL's transition into a ROGS environment.</p> <p>The Project Representative's comments are accurate. The PSSG Terms of Reference has been agreed; the steering group will go ahead and function as planned.</p> <p>CRL agrees with the Project Representative's comments in relation to SIDT in the period as accurate.</p>
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<p>Stage 2B Operations</p>	<p>FLUs operating on the GWML are being loaded with the software configuration that provides sufficient reliability to operate to both Heathrow and Reading. RfLI can now operate a 4 TPH service to Heathrow but is choosing not to do so while airport passenger demand is impacted by Covid-19.</p>	<p>As previously stated in CRL’s response to the Project Representative’s Period 8 Report, a full FLU passenger service to Reading, supplementing the 2 TPH Heathrow service was introduced in December 2020. FLUs operating on the GWML and Heathrow services are being loaded with the software configuration that significantly reduces the rate of ETCS resets, and FLU reliability has seen a commensurate improvement. This means that TfL Rail could operate a 4TPH service to Heathrow but is choosing not to while airport passenger demand is impacted by COVID-19.</p>
<p>Future Stages</p>	<p>Stage 4A timetable will be implemented in [REDACTED], although the original objective of starting service solely with FLUs will not be met. There is a reasonable risk that FLUs will not be available at the start of timetable change, due to necessary software configuration availability. The initial limited 4 FLU service is expected to rapidly increase to a full fleet after the August 2021 Blockade.</p> <p>RfLI continues to develop its proposals for the implementation of [REDACTED] services and intends to complete the implementation in [REDACTED].</p>	<p>The Project Representative is correct in stating that Stage 4a timetable will be implemented in [REDACTED], although the original objective of starting service solely with FLUs will not be met. There is a risk that the required train software, to be delivered on [REDACTED], will not clear the MTR and RfLI approval processes in a timely manner for the timetable change, and the number of FLUs operating Stage 4a will be limited to a maximum of six until after the August 2021 Blockade. This is due to the restriction on Stage 4a train movements through the Central Operating Section for maintenance at Old Oak Common Depot. Post the Blockade, the FLU service is expected to increase to a full fleet during [REDACTED].</p> <p>The Project Representative’s comments in Period 12 regarding the proposed developments to implement [REDACTED] are agreed as accurate.</p>

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	<p>(aligned with the [redacted] and [redacted]). [redacted] appears to be RfLI's selected course of action to replace [redacted] and, [redacted], this could be implemented, assuming the relevant reliability criteria have been met. As this constitutes a change to the PDA, this is likely to go through the change process.</p>	
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<p>Organisation Transition</p>	<p>The CRL team is engaged with TfL to transition the resource management and associated Workforce Plan to TfL's responsibility, while CRL maintains responsibility for recruitment of Programme critical specialist resources. [REDACTED]</p> <p>Until this is resolved, this may pose a threat to delivery.</p>	<p>TfL have now appointed a Senior HR Business Partner who is now integrated within the CRL project. Recruitment remains a CRL function and transition discussions are ongoing with the relevant TfL and CRL teams. [REDACTED]</p>
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<p><b>Stage 3 – Trial Running and Trial Operations</b></p>	<p>The T-3 review indicated the same significant challenges as T-4, with greater intensity to resolve before transition into ROGS on 27 March 2021 and commencing the period of Trial Running on [REDACTED].</p> <p>The assurance process continues to show signs of strain, with many interactive documents that require substantial work to complete for entry into Trial Running. This is related primarily to rate of Dependency closure and StEJ process, speed of evidence flows through the respective parties, as well as addressing RfLI's outstanding critical issues to support important documents such as the COS SJ and CESAC. Resulting concurrency is adding to the challenges faced by both CRL, RFLI and simultaneous acceptance at RAB(C). This includes Rail Systems &amp; Non-Traction Power (RSNTP) certification, RAB(C)'s acceptance of the CESAC and RfLI's DoCoR in the final days leading up to the [REDACTED] transition to ROGS.</p> <p>Resolution of the Maintenance Plan and an agreed Intervention Strategy for HV/LV electrical issues are important considerations by both CRL and RfLI for work in ROGS and Trial Running. An intense schedule of reviews by CRL and RfLI highlights incomplete Asset Data, which includes Signalling, as well as Care and Custody maintenance records. The 'block' nature of asset compliance means that large numbers of assets</p>	<p>Transition into ROGS was achieved on 27 March 2021 as planned and the programme has now entered a ramp up period. This entails embedding processes and completing necessary maintenance tasks to allow the recommencement of train movements on [REDACTED].</p> <p>The Project Representative's comments are noted. SJ dependency closure will remain at the centre of safety assurance to achieve Trial Operations and Stage 3 Revenue Service.</p> <p>CRL acknowledges and agrees with the Project Representative's comments.</p>
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	<p>have a similar expiry date that RfLI requires smoothing out for its resources to manage a steady flow of compliance work. Consequently, a period of intensive maintenance works is required immediately after entering ROGS to address the situation, and RfLI propose a controlled introduction to start of Trial Running. This work is expected to last until at least [REDACTED] before train services start to operate. The approach also allows the mobilisation of sufficiently safety trained resources to work under ROGS. Consequently, CRL is now indicating a [REDACTED] for [REDACTED] for starting Trial Running.</p> <p>In the Trial Running period, there will be competing elements of work to complete before entering Trial Operations; these include, deferred and outstanding testing and infrastructure works (including Programme integration works for PSD/TVS, door opening issues and Plumstead power supply and related Improvement Programme for Engineering hours). A major software (ELR 100) development is showing emerging signs of schedule pressure. With its deployment and assurance planned in the same period as the August 2021 Blockade, this is another crucial activity that could be very demanding to achieve with train testing ahead of Trial Operations. Achieving train reliability growth under timetable operations is likely to be a dominant theme for Trial Running and will be an important criterion for entering Trial Operations. Reliability Growth is a growing</p>	<p>As stated above, the Programme Baseline 1.2 aims to address the Project Representative's points mentioned.</p>
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	<p>concern, with train mileage currently 37% less than planned entering into Trial Running, and this will require due consideration over infrastructure works, if entry to Trial Operations is not to be impacted. Other Programme demands are also likely in the peak summer holiday months, [REDACTED] and a release from National lockdown.</p> <p>The impact of the [REDACTED] maintenance period is a late added risk to the Trial Running period that is yet to be quantified. This, together with the identified volume of work to complete, schedule productivity challenges, further pressure on mileage accumulation and major software release, suggests the schedule is already under threat and therefore the [REDACTED] start of Trial Operations is at risk.</p>	<p>These challenges are being reviewed and addressed within the Programme Baseline 1.2 refresh currently underway.</p>
<p><b>Stations Assurance and Commissioning for Trial Operations</b></p>	<p>A review of the issues and challenges facing the Stations delivery to achieve the [REDACTED] Stage 3 Passenger Service indicates pressures associated with scope, assurance schedule and cost in delivery of four of the stations (Bond Street, Whitechapel, Paddington and Canary Wharf). A centralised approach to assurance resources is resulting in a prolongation of assurance activities, and a backlog of deferred works as stations are forced into a queue system. Past performance up to Period 12 has been below plan and there is not much evidence to indicate forecast rates will substantially improve in coming periods, as</p>	<p>Interventions are underway and good collaboration is being exercised with the Infrastructure Managers in formulating a pragmatic approach to completion. Prolongation of Paddington station will inevitably experience cost pressures; however, this has been aligned to the risk profile since the beginning of 2021. Alignment of stations to be supported by assurance has some intervention requirements that will include streamlining the review process and seeking to expediate resources to drive documentation through the plethora of reviews. Other interventions may include eliminating</p>

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	<p>forecast station milestone dates are maintained in the period. Mitigation measures under consideration to aid delivery include further enhanced collaboration from all parties, streamlining of the assurance process to the end of the Programme and handover process to the IMs. Engagement of the General Works Contractor by [REDACTED] is expected to realise cost savings, although significant cost pressures remain.</p> <p>For Bond Street Station to achieve the challenging date of [REDACTED] for SC3 ROGS, a change in approach will be required to deliver a functional station but safe to operate. This will require an [REDACTED] and an associated [REDACTED] increase in AFC. In the meantime, indications suggest that the completion of assurance for SC2 for [REDACTED] will be challenging. We believe that the proposed [REDACTED] will present CRL with a serious challenge and the task may be overly ambitious. The drive for SC3 should not distract from the primary objective of [REDACTED] as the absolute minimum [REDACTED].</p> <p>While Paddington Station entered the T-12 countdown process to SC3 ROGS, it continues to be confronted by poor assurance productivity that is likely to impact its completion date, adding further pressure to start of Trial Operations. The consequential effects and concurrency impact on other stations during BIU</p>	<p>redundant review cycles which are being looked at all levels of the process.</p> <p>As previously stated, Bond Street station is moving in a positive direction to achieve [REDACTED] and BIU. An Assurance Strategy has been drafted and both LUCT and CRL are briefing all relevant parties for full alignment. Scope has been defined and maintenance strategies have been drafted in readiness for an Infrastructure Managers workshop roll out. [REDACTED] at Bond Street station is gaining traction on delivery, thus confidence in the ability to deliver continues to grow.</p> <p>Paddington station is on a weekly 'watch list' and is being reviewed by the Executive team and the Commissioner. The contractor, CSJV, meet with CRL three times per week to work on roadblocks and alignment with all stakeholders. Timing may require additional movement for SC3ROGS. However, the programme along with the Plateau</p>
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	<p>and Plateau 2 team resources is expected to require management interventions.</p> <p>The update to DCS v1.2 in [REDACTED] is expected to include alignment of all Stations' final delivery schedules with the Tier 1 contractors and the supply chain and provide greater understanding of the risks influencing the schedule. Preliminary assessments of DCS v1.2 and QSRA schedule risk output suggest there are challenges to maintain the [REDACTED] [REDACTED] and variances will need to be addressed to bring them within expectations for Trial Operations and Stage 3 Passenger Service. Initial indications suggest mitigations planned for Bond Street Station will need to be successful to avoid a [REDACTED] delay to Trial Operations.</p>	<p>2 team have agreed a plan that will support Trial Operations.</p> <p>CRL notes the Project Representative's comments.</p>
<p><b>Commercial and Risk</b></p>	<p>During Period 12, CRL commenced its review and challenge on the Cost Pressures which, last period, were [REDACTED]. The impact of this initial review has reduced the figure to [REDACTED] but continues to be excluded from the reported AFCDC. The positive move to review and challenge is intended to continue through Period 13, in order that all cost elements are included within the reported AFCDC figures and the DCS v1.2 refresh. The Cost Pressures review may identify the wider duplication of Risk provision and could reduce the level of allowances, by removing the need for Scope Gap provisions at [REDACTED]. We expect that some currently budgeted outstanding scope may be deferred into the post-Trial Operations period and could become included as part of an OpEx</p>	<p>CRL agrees with the Project Representative's statement that positive moves to review and challenge the cost pressures will continue through Period 13. CRL is taking further proactive steps including scope workshops to resolve any remaining scope ambiguity and agree the scope to be delivered for each project and across the programme; the output of which will produce a Programme Scope Book.</p> <p>These workshops bring together a range of information and areas of concern including the Scope Gap Provision and the Cost Pressures List. Furthermore, CRL continues to review the detail of our risk provisions.</p>

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	<p>provision. This is a potential risk that we expect to be considered by CRL in finalisation of the DCS v1.2.</p> <p>From the Period 12 AFCDC 'Base Case' of [REDACTED] presented at the Period 12 EPPR, the Risk and Provisions element is [REDACTED], a reduction of [REDACTED] from Period 11. This is the position without the application of the Period 12 EPPR offset options. With the proposed introduction of targeted mitigated risk position (as adopted by TfL), CRL is setting the direction for shifting focus towards reporting a post-mitigated view for future periods. This has the benefit of presenting a more favourable risk position for both cost and schedule but is reliant on successful interventions to realise savings. We continue to consider the forecast to be understated.</p> <p>We remain concerned that we have not been sighted on, or received briefing of, the Supplemental Agreements that form part of a Commercial Strategy being considered for the remaining elements of the Crossrail Programme, as the transfer of the assets to the IMs becomes closer.</p> <p>Resourcing is reported to be 50 FTE below the Workforce Plan (WFP) approved in January 2021. While this should provide cost savings against forecast, only 10 roles are currently being recruited of the budgeted 56 vacancies. A WFP review is expected to align with the DCS v1.2 as this is finalised.</p>	<p>The review of scope will allow for informed and adjoined decision-making. Any risks will be considered as part of this.</p> <p>The potential to move to a post-mitigated risk position is an option that has been discussed and is being explored further. The option would not only bring CRL in line with wider TfL projects risk management it would also aim to target the actions and interventions necessary to manage down our risk exposure. CRL acknowledge that there remain unallocated pressures outside the current AFCDC and these are under review and challenge with many actions underway. There also remains an opportunity as CRL continues to drive the focus on risk mitigation and the potential to move to a post-mitigated reported position is being explored.</p> <p>CRL acknowledges the Project Representative's concern regarding the lack of communication in relation to Supplemental Agreements. The latest Supplemental Agreements have now been provided. Further briefings are being arranged.</p> <p>At the time of writing, there are 47 posts in active recruitment, of which suitable candidates have been found for 18 and their start dates are pending. There is budgetary provision for a further 50 posts which will be reviewed in line with the Programme Baseline 1.2 once it is finalised.</p>
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<p><b>Organisation</b></p>	<p>Schedule pressures and slippages due to productivity challenges in the critical Trial Running period may require [REDACTED]</p> <p>CRL continues to implement its Change Management process, although it is evident that further engagement and communication at a project level is necessary, as requested by its project commercial teams. The process is being enhanced to include a Programme Change Panel, although this is not expected to be in place until the end of March 2021; this will have the primary purpose of managing emerging scope and cost. A ‘Star Chamber’ is expected to be formed to manage existing long-standing scope and associated cost impacts, this is anticipated to be fully established for [REDACTED]. CRL’s executive team is also implementing an initiative to review scope emergence from all parts of the Programme, including Programme-wide instructions. While these processes and initiatives would normally already be well established on a major Programme, we recognise these as positive steps; however, they will require time to fully arrest scope creep and finalise the Programme costs-to-go.</p>	<p>Further communication of the Change Process is being implemented. Teams across the programme are now familiar with the process, having progressed over 40 changes of all values and from all areas of the business over the past 2.5 months since the process was introduced. Changes are progressing quickly, with full approval attained in under 10 calendar days of submission as at Period 12. The Programme Change Panel will be introduced following the completion of the Programme Baseline update and Scope Book exercises to enable it to be established in the best form to control change against these plans.</p>
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