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Dear Florence

As you are aware, our priority has been to transition the high level Earliest Opening Programme (EOP) into a logical and detailed Delivery Control Schedule (DCS). We have conducted site based planning workshops with contractors, combined with integration workshops to underpin a bottom-up approach. There remains some ongoing work to ensure full alignment of all our Tier 1 contractors.

We finalised a baseline DCS on 19 June 2019 and are now executing our plan, allowing us to consistently track and measure our progress. Alongside this, our current focus is predominantly on key areas of risk such as ensuring that Bond Street station is at the required stage of completion to allow us to commence trial running early in 2020. Mitigating this risk along with other risks such as resource availability in our contractors' supply chain, software convergence between Bombardier and Siemens and the handover process of assets to the infrastructure managers, are critical in keeping us on track to deliver within our opening window of October 2020 – March 2021.

Work is ongoing to determine an aligned final forecast cost for the central section (AFDCD). The AFDCD is being calculated based on schedules we have received directly from our Tier 1 contractors. However, there remain a number of contracts whose programmes are not fully aligned to the DCS and therefore the anticipated final cost contains additional risk provision estimated by the Crossrail management to cover this uncertainty. Intense work is ongoing to obtain the information required from our contractors.

Please find below the rest of this month's update on the Crossrail project for the Transport Committee of the Assembly.

## Safety

On health and safety overall performance remained consistent during June. There was cause to investigate two accidents that resulted in time away from work. While passing materials from one level to another at Bond Street station a scaffolder dislodged the protection over a small opening, resulting in his leg falling in to the opening. He sustained grazing and bruising to his leg and had several days off work. We have also investigated a person feeling pain in his back following cable and lighting removal works at Woolwich station. Both accidents were

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investigated by the contractor and the learning shared across the programme for review and implementation.

We have maintained the highest levels of scrutiny for operational railway incidents, including the investigation of an access door into the tunnel environment being opened during dynamic testing. We have initiated a review of all of the contractors' fatigue management arrangements as fatigue may have been a factor in the above incident. The doors to the tunnel also have additional barriers and signage during our dynamic testing windows.

In June, the London Fire Brigade carried out their first largescale exercise to examine the physiological impact of firefighters carrying out their emergency response duties in the Crossrail tunnel environment. The exercise took place at Paddington station site. Supporting the safe execution of the tests were 70 firefighters alongside Crossrail, the Tier 1 contractor and our systemwide staff. A study like this is of crucial importance to the emergency services and their input into the design of future underground railways.

The Crossrail Safety, Health and Environment Leadership Team (SHELT) met again this month. Programme performance, incident learning and our Target Zero Improvement Plan all featured on the agenda. The focus of this group remains on ensuring our health & safety strategies mitigate the existing and emerging risks as we move towards handover of the railway.

### **Central Section Progress**

We will be publishing a series of videos on our website ([www.crossrail.co.uk](http://www.crossrail.co.uk)) to show the state of completion at our central London stations. These highlight the complexities of remaining fit-out works and testing and commissioning of the mechanical and electrical systems that needs to be completed before trial running commences.

As mentioned in my last update, it was our intention to handover Victoria Dock Portal, Pudding Mill Lane Portal and Mile End Shaft and to the Infrastructure Manager in July. However, due to additional complexities discovered in the countdown process, these milestones are now planned to be achieved in August. The process for tracking the readiness of assets to handover to the Infrastructure Managers and Maintainers is being reviewed and strengthened. As the first shafts and portals have approached handover, further outstanding work has been found and the supporting asset and maintenance information has not been available. A more rigorous countdown process is being put in place alongside the DCS. This is vital as the handover process needs to be trialled and optimised with 'simple' assets such as the shafts and portals before the major station and routeway completions and handovers commence later this year.

### **Main Dynamic Testing**

We have now established a collocated joint team of experts consisting of senior influential technical experts from Bombardier, Siemens and Crossrail to drive forward a more coordinated approach to dynamic testing.



Testing of the converged software (Siemens PD+8 and Bombardier YO.385) commenced within the offsite Crossrail Integration Facility (CIF) on 11 June as well as within the central section (Abbey Wood to Paddington) on 4 July.

Of 100 test scenarios now understood to be capable of being executed on the CIF with this version of the software configuration, 98 have now been attempted, of which 56 have passed and 14 partially passed. 10 tests had to be abandoned due to errors in the test scripts and 18 tests have failed. These scripts are being updated to allow the tests to be repeated. This has provided us with a greater level of confidence in the quality of the software. As we are testing new functionality a pass rate of over 50% is better than we expected.

Within the central section, regression testing of the new signalling software and corresponding train software has commenced. This form of testing entails re-running tests to ensure that previously developed and tested software still performs after the new software drop. Of these tests undertaken so far, 18 test scenarios passed (including all 16 deemed essential to support dynamic testing), and 2 test scenarios relating to the interface to the platform screen doors failed.

### **Operational Readiness**

Maintenance teams started moving into the new Maintenance Management Centre at Plumstead at the end of June. Training and familiarisation of the maintenance staff continues, however, the transfer of maintenance information from contractors to the maintenance teams continues to be slower than planned. As a result, this is an issue that we are prioritising and will be raised with our contractors at a supply chain event we are holding in July. Some limited track inspection is now being carried out by our maintenance teams and this has proved extremely valuable. Work is underway to increase the scope of the maintenance remit and allow the construction contractor to focus more on their remaining tasks.

The training of Traffic Managers, Incident Response Managers and Service Infrastructure Managers continues using signalling and power systems simulators and desktop exercises. After the latest update to the simulators, more of the functionality of the systems is now available. During June 2019 members of the training and signalling staff worked for a few days at Siemens' signalling laboratory in Germany and tested the next release due to be rolled out on Crossrail. This was a very helpful exchange for both parties and will be repeated. Signalling and Response Managers continue to be engaged in support of the wider dynamic testing programme, including providing support on-board the trains and working with testers in the Romford Control Centre to observe and support train signalling.

### **Network Rail**

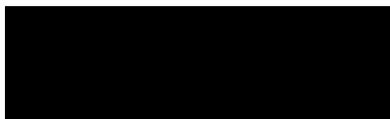
Network Rail continued delivery of infrastructure works required for Stage 5A - TfL Rail services between Paddington and Reading in December 2019. Platform extensions at West Drayton are nearing completion, whilst works at Slough and Maidenhead are forecast to be complete within the next two months. There is a slight delay to the installation of driver's CCTV at Burnham, Taplow and Langley, but Network Rail is forecasting an improvement to overall completion of works with the final station (Twyford) now scheduled for completion on 26 November.



Enhancements of stations between Hayes & Harlington and Acton Main Line are progressing following the contract awards. Surveys have now been completed at Hayes & Harlington, Southall and West Drayton. Network Rail is finalising the approach to the design of the canopy at Ealing Broadway whilst the installation of a temporary footbridge to facilitate works at Hayes & Harlington is planned for the August Bank Holiday.

On the east, Network Rail has commenced works at the Harold Wood ticket office and the ticket office at Goodmayes is currently being fitted out by MTR.

Kind regards



**Mark Wild**  
CEO