

**CROSSRAIL BOARD**

**Minutes of the Meeting of the Board of Directors of Crossrail Limited  
Held on Thursday 8 October 2015 at 13.00  
Bond Street Site Office, 2nd Floor, East Wing, 75 Davies Street, London W1K 5JN**

<b>Members:</b>	<b>In Attendance:</b>	<b>Apologies:</b>
Terry Morgan <i>Chairman</i>	Victoria Burnett <i>Head of Secretariat</i>	Martin Buck <i>Transition &amp; Strategy Director</i>
Andrew Wolstenholme <i>Chief Executive</i>	Mathew Duncan <i>Finance Director</i>	Will Parkes <i>External Affairs Director</i>
David Allen <i>Finance Director</i>	Mark Fell <i>Legal Services Director &amp; Company Secretary</i>	
Michael Cassidy <i>Non-executive Director</i>	Lucy Findlay <i>Chief of Staff</i>	
Phil Gaffney <i>Non-executive Director</i>	Paul Grammer <i>Commercial Director</i>	
Terry Hill <i>Non-executive Director</i>	Chris Green (part of meeting) <i>Chair, Operations &amp; Systems Expert Panel</i>	
Robert Jennings <i>Non-executive Director</i>	Howard Smith <i>Operations Director</i>	
Daniel Moylan <i>Non-executive Director</i>	Valerie Todd <i>Talent and Resources Director</i>	
Simon Wright <i>Programme Director</i>		

The meeting was quorate.

	The Chairman welcomed Board members and attendees including Mathew Duncan and Paul Grammer who were attending the Board meeting for the first time.
<b>BD MIN 150910</b>	<b>Minutes of the Meeting of the Board held on 10 September 2015</b>  The Board <b>APPROVED</b> the minutes of the meeting held on 10 September 2015 for signature.
<b>BD AC 151008</b>	<b>Actions and Matters Arising</b>  The Board <b>NOTED</b> the following status updates for actions due for this meeting that were not already covered elsewhere on the agenda:  <b>16.033 – Security Arrangements</b> – It was reported that alternatives to bollards for hostile vehicle mitigation were being investigated with local authorities with development of the urban realm designs. An update on progress would be provided at the next Board meeting.  <b>Action:</b> Simon Wright

**BD  
CBR  
151008**

### **Crossrail Board Report Period 6**

Andrew Wolstenholme introduced the Period 6 Board Report providing an overview and highlighting key 'Are We Within Funding?' performance results. It was **NOTED** that:

- Work had been completed ahead of schedule to remove the last two TBMs from Farringdon;
- Good progress had been made against the schedule both in terms of production and alignment around MOHS;
- Whitechapel remained the biggest concern and point of focus and there would be a paper on the issues and options later in the meeting;
- Cumulative SPI remained at 0.97 but CPI had reduced from 0.93 to 0.92;
- In period SPI had fallen to 0.73 from 1.03 as a result of C412 granting late access to the Western Ticket Hall and tunnels and an outdated baseline;
- CPI had reduced to 0.71 from 0.73 within the period;
- The breach of IP0 had increased to £94m from £46m at Period 5. The AFCDC, which had increased by £36.6m in the period, remained within the IP1 compliant budget at P50. However, with the P80 AFCDC now at £12,056m (£116m above IP1), there was a greater than 20% chance of needing to draw on TfL's contingency;
- The increase in AFCDC was driven by increases at SCL stations tunnel east and at Whitechapel station offset by net decreases in Programme risk following the Q2 QRA. The Intervention Points had also decreased by £12m predominantly due to the adverse impact of the new TfL SONIA rates on the Sponsor Funding Account interest earned; and
- KPIs had remained stable except for an upward, positive movement in RIDDOR and Front Line Leadership enrolments.

#### *Are We Safe*

It was **NOTED** that:

- Safety performance had improved again in Period 6 and there had been three weeks with no lost time cases reported;
- There were two significant incidents (compared to four in Period 5). RIDDOR AFR had reduced to 0.15; HSPI reduced slightly to 2.24 although 15 of the 16 contracts reported scores of over 2.00; Lost time case AFR remained at 0.28 but was likely to reduce in Period 7;
- Seven contracts continue to record over six months without lost time; C520 and C340 had both gone over two years without lost time. C340 Victoria Dock Portal had now recorded over a 1000 days without a lost time case; and



- Points of focus for the Period had included lifting operations best practice guidance, "have your say" survey analysis and stepping up week preparation

#### *Are We on Time?*

Simon Wright presented an overview of delivery performance highlighting some of the key issues:

- The periodic CPI and cost variance at several of the major stations continued to cause concern. In most cases the underlying drivers of these low CPIs were insufficient prelims (staff, facilities, equipment and design) allowed for in contractors' budgets coupled with poor performance, and a disconnect between approved schedules and actual performance;
- Inspections for areas of SCL de-bonding at Tottenham Court Road and Bond Street were largely complete following the quality issues reported in Period 2. Areas of minor rework had been identified and repairs were underway;
- Work to remove the TBMs from Farringdon was now complete and all the associated risk relating to the hot work and oxyacetylene cutting gear had passed;
- Unusually poor ground conditions continued to affect progress of C510 at Moorgate Box. The grout injection undertaken from Electra House had effectively stabilised the area. Works would continue in preparation for making a formal decision on 23 October whether or not to use ground freezing to stabilise some areas of very poor ground conditions should the grouting technique prove to be ineffective;
- Works were nearing completion on the elliptical columns at Paddington which had previously been problematic. The programme had still to return to plan. Mitigation measures including use of a night shift and a split shift should bring progress back to programme over the next six weeks. Work would now continue over the Christmas period;
- The Bond Street Station design contractor (Arup) was currently delivering substandard performance. Despite intervention by members of the Crossrail executive, recently completed critical design products, particularly electrical design specifications, were below the required quality standard. The Programme Director would now intervene to instruct a remedial action plan;.
- Management action had improved the Greater Anglia Franchise holder's confidence in the project team at Ilford Yard, although there remained complex interdependency between the Crossrail work and other work on the Greater Anglia network. A blockade within the depot was required from November for five weeks. Executive level engagement in a readiness review had been planned to ensure that the complex interrelationship between the stakeholders (including Abellio) would be effectively managed, in particular around the handling of fleet management during the blockade;
- Excavation work on the additional shaft in the Whitechapel Sports Centre Astro turf pitch was completed after the end of the period. Cost performance during the period was again unsatisfactory, caused by a combination of poor performance (the temporary Ticket Hall now scheduled for January 2016) and an underestimate of costs in the original tender;



- A decision had been taken to intensify work in advance of the 60% Stage Gate at the end of October. However there were continuing concerns regarding Network Rail's delivery of ETCS. The ORR decision on Plan B was expected by 5 December 2015 and, until this was received, there was a risk on Crossrail's ability to open Stage 2. Siemens would be instructed to undertake work to deliver Plan B as a parallel workstream to avoid disruption to the CBTC signalling design work. CRL was actively engaging with NR on this project critical issue which was discussed with Sponsors late in September. Executive level meetings were being held, including a meeting with the Network Rail CEO Mark Carne on 14 October 2015;
- Systemwide continued to focus on the generation of its detailed delivery schedules, together with ensuring coherence between engineering specifications delivered by the Civils Sector, and the plant and machinery it supports.

### **Commercials Update**

Paul Grammer provided an update on progress with commercial negotiations on the following contracts: C405 Paddington, C412 Bond Street, C422 TCR, C435 Farringdon, C502 Liverpool Street, C510/512 Whitechapel; C300/410 Tunnels West, C305 Tunnels East, C610 Systemwide and C828 Ilford Depot. Settlement had been achieved with 66% of contracts. However, in terms of value, 60% remained unsettled, nor settled in the interim nor agreed in principle – but overall progress was positive.

Are we world class?

It was **NOTED** that:

- The first demonstration of the Standard Track Slab was successfully completed at Plumstead using the concrete train;
- External Affairs activity during Period 6 included broadcast coverage of the official opening of Jubilee Marsh, the Progress 1000 event at Canary Wharf Station and media and stakeholder visits to the project; and
- The Transition and Learning Legacy work was progressing well.

The Board **REQUESTED** that Howard Smith should provide a presentation at a future Board meeting on the design of the Crossrail rolling stock and branding.

**Action:** Howard Smith

The Board **NOTED** the Board Report for Period 6.

30/16

### **CRLB 22/16 – Project Representative Report Period 05**

The Board received the Project Representative's (P-Rep) Project Status Report for Period 05 which noted the following:

- The increase in cumulative overspend and the likelihood of breaching IP0 at SACR14;
- That significant contingency drawdown is forecast in the Commercial and Change Sub Committee pipeline;

	<ul style="list-style-type: none"> <li>• That the MOHS continues to be developed to reflect the contractors' schedules;</li> <li>• Crossrail's approach to managing Whitechapel issues;</li> <li>• Issues with resourcing and poor performance at Woolwich;</li> <li>• The red status of a number of items for operational readiness for Stages 1-3;</li> <li>• Concerns around the management of Variation Notices bringing unacceptable risk to the On Network Works Programme; and</li> <li>• Depot and Rolling Stock issues.</li> </ul> <p>The Board <b>NOTED</b> the Period 05 report.</p>
31/16	<p><b>CRLB 23/16 – Legal Report</b></p> <p>The Board received the Legal Report which updated the Board on legal matters.</p> <p>It was <b>NOTED</b> that a hearing was due to start on 2 November before the Lands Tribunal to determine the claims for compensation brought by BPP (Farringdon Road) Limited relating to Caxton House. [REDACTED]</p> <p>[REDACTED] the Board was asked to <b>NOTE</b> a potential risk to AFC. The hearing was expected to last for seven weeks.</p> <p>The Board <b>NOTED</b> the Legal Report.</p>
32/16	<p><b>CRLB 24/16 – C512 Whitechapel – issues and Options</b></p> <p>Simon Wright presented a paper that set out a number of options to mitigate issues affecting the C512 contractor's performance and to enhance the surety of delivery of the station in accordance with the MOHS. [REDACTED]</p> <p>[REDACTED]</p> <p>The Executive and Investment Committee had reviewed the proposal at its meeting on 1 October and supported Option 1 as set out in the paper, which was to enter into a commercial negotiation with BMV as soon as possible to secure renewed confidence in BMV's ability to deliver and determine whether an acceptable programme and BUF could be agreed. [REDACTED]</p> <p>[REDACTED]</p> <p>The Board <b>NOTED</b> the contents and conclusions set out in the paper supporting Option 1 while retaining the ability, and identification of a number of milestones, to move to Option 2 at a later stage if necessary.</p>



33/16	<p><b>CRLB 25/16 – Update on costs for</b> [REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <table border="1" data-bbox="284 432 1394 667"> <thead> <tr> <th data-bbox="284 432 655 517"></th> <th data-bbox="660 432 1032 517">Current Control Budget (£k)</th> <th data-bbox="1037 432 1394 517">Investment Authority (£k)</th> </tr> </thead> <tbody> <tr> <td data-bbox="284 524 655 566">[REDACTED]</td> <td data-bbox="660 524 1032 566">[REDACTED]</td> <td data-bbox="1037 524 1394 566">[REDACTED]</td> </tr> <tr> <td data-bbox="284 573 655 616">[REDACTED]</td> <td data-bbox="660 573 1032 616">[REDACTED]</td> <td data-bbox="1037 573 1394 616">[REDACTED]</td> </tr> <tr> <td data-bbox="284 622 655 665">[REDACTED]</td> <td data-bbox="660 622 1032 665">[REDACTED]</td> <td data-bbox="1037 622 1394 665">[REDACTED]</td> </tr> </tbody> </table>		Current Control Budget (£k)	Investment Authority (£k)	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
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34/16	<p><b>CRLB 26/16 – Project Funding – Board Contingency</b></p> <p>David Allen presented a paper that provided a context for the current financial status of the Crossrail project and to request a transfer of £145m from Board Contingency to Programme Contingency.</p> <p>After some discussion, and having considered what was appropriate in terms of the ratio of Board Contingency to Programme Contingency in relation to the stage reached in the Project, the Board:</p> <ol style="list-style-type: none"> <li>1. <b>NOTED</b> the principal changes in the relationship between Crossrail's Anticipated Final Crossrail Direct Cost (AFCDC) and the Intervention Points (IPs) since Review Point 4.2 ('RP4.2') in 2011; and</li> <li>2. <b>APPROVED</b> a transfer of £145m of budget from Board Contingency to Programme Contingency.</li> </ol> <p>It was also <b>AGREED</b> that the Board should carry out an annual review of the level of Board Contingency held from now on.</p> <p><b>Action:</b> Mathew Duncan</p>												
	<p><b>CRLB 27/16 – Operations &amp; Systems Expert Panel Update</b></p> <p>Chris Green presented an Operations and Systems Expert Panel Update which concluded that project work was well advanced for a successful introduction of Stage Two on 20 May 2018 with the following recommendations:</p> <ul style="list-style-type: none"> <li>• Network Rail should be encouraged to commission continuous ETCS signalling from Heathrow to the Westbourne Park portal by May 2018. Existing TPWS should be used to access Paddington Mainline pending a later ETCS installation in this complex throat.</li> <li>• The integration of rolling stock, signalling and communications systems should be subject to an interdisciplinary review to ensure that all interfaces and human factor issues have been fully resolved.</li> </ul>												

	<ul style="list-style-type: none"> <li>• A study should to be concluded with Network Rail to ensure that 25kv supplies in the Old Oak Common area will be adequate under all situations.</li> <li>• It would be helpful if Crossrail adopted MPH (not KPH) in all its signing and publications to ensure end-to-end consistency for drivers and other staff.</li> <li>• Detailed timetable work should be started with Network Rail on both the December 2018 and 2019 Timetables to ensure all CRL's future needs are firmly embedded, including the option to extend two extra services to Heathrow (T5).</li> <li>• Pressure should be maintained on Network Rail to coincide station upgrading with the introduction of the new train services as follows: <ul style="list-style-type: none"> <li>○ May 2017 Gauging, Stepping and DOO</li> <li>○ May 2018 Stage Two station buildings</li> <li>○ May 2019 Stage Five Gauging, Stepping, DOO and station buildings</li> </ul> </li> <li>• Clarity should also be sought from TfL on the benefits of branding Stage Two stations 'Crossrail' immediately on transfer in December 2017 to avoid further re-branding.</li> </ul> <p>The Board <b>NOTED</b> the report and recommendations.</p>
36/15	<p><b>CRLB 28/16 – 2016/17 Corporate Objectives and Business Planning Update</b></p> <p>Andrew Wolstenholme presented the 2016/17 Corporate Objectives for approval.</p> <p>It was <b>NOTED</b> that, in response to comments received at the September meeting, consideration had been given to the wording and weighting of two objectives relating to managing the level of change and risks. After some discussion at the Executive and Investment Committee on 1 October, it had been concluded that having a separate objective for 'managing the level of change' could not be supported by a meaningful performance metric and so it was removed. The objective, 'manage the level of change and our risks to maintain affordability' had had its weighting increased to 31% to reflect the importance of the 'managing change' element.</p> <p>The Board <b>APPROVED</b> the Corporate Objectives for 26/17 as presented but asked the executive to continue looking at ways to set appropriate performance targets for managing costs.</p>
37/15	<p><b>CRLB 29/16 – Cancellation of Big Dig Survey 2016</b></p> <p>Valerie Todd presented a proposal that the Big Dig Survey should not be carried out this year and that the corresponding weighting in the 2015/16 corporate objectives should be re-allocated to the 'apprentices' target accompanied by an increase in the target itself to 500 from 476.</p> <p>The Board <b>AGREED</b> that the Big Dig Survey should not go ahead this year but <b>REQUESTED</b> that the corresponding weighting from the 2015/16 corporate objectives should be transferred to the 'Are We Within Funding' section.</p> <p><b>Action:</b> Valerie Todd/Mathew Duncan</p>



38/16	<p><b>CRLB 30/16 – Pension Legacy Arrangements</b></p> <p>Valerie Todd presented the recommendation prepared by the TfL/Crossrail Pension Joint Working Party to establish a new stand-alone Crossrail section in the Railways Pension Scheme and to transfer all assets and liabilities across from the Omnibus section.</p> <p>It was <b>NOTED</b> that a difference of opinion had emerged from the Joint Working Party. The CRL members considered, on advice from AON Hewitt, that it would be appropriate to fund the new Crossrail section on a “technical provisions” basis (which would still result in a payment of £10 million more than if the TfL pension funding basis was used). The TfL members considered that a further £10m should be paid (on the basis of the IAS 19 accounting standard) to protect TfL from the risk arising from it becoming the designated employer for the new section.</p> <p>After some discussion, the Board <b>AGREED</b> that this difference of opinion should not delay the establishment of the new section and:</p> <ul style="list-style-type: none"> <li>a) <b>APPROVED</b> that all of CRL's assets and liabilities should be transferred out of the Omnibus section of the Railway Pension Scheme (RPS) and into a stand-alone section of the RPS;</li> <li>b) <b>APPROVED</b> that the establishment of a new section and the transfer of assets and liabilities should begin immediately with a view to the transfer being completed prior to the next valuation date (31 December 2016) or by any later date subsequently agreed by TfL and CRL;</li> <li>c) <b>NOTED</b> that the precise timing of the transfer, or of any other action which would crystallise a section 75 debt, would be a matter for subsequent Board decision;</li> <li>d) <b>NOTED</b> that further discussion would be required to resolve the difference of opinion as to the appropriate funding basis;</li> <li>e) <b>NOTED</b> that a status report on pension arrangements would be provided to the Sponsor Board;</li> <li>f) <b>NOTED</b> that the manner in which CRL should respond to the forthcoming abolition of contracting-out, and particularly whether changes should be made to members' benefits or contributions, would be a matter for subsequent Board decision</li> </ul>
39/16	<p><b>CRLB 31/16 – Delegated Authorities Review Proposal</b></p> <p>Mark Fell presented a proposal to amend the Scheme of Authorities and provide the Board with more regular information in relation to intended commercial settlements agreements and cost forecasts.</p> <p>The Board <b>AGREED</b>:</p> <ol style="list-style-type: none"> <li>1. To reduce the limit of Investment Authority delegated to the Commercial and Change Sub-committee (CCSC) from £100,000,000 to £25,000,000;</li> <li>2. To reduce the limit of the authority delegated to the CCSC to approve commercial settlement agreements from £10,000,000 to £5,000,000; and</li> <li>3. To introduce a new limit of £5,000,000 per contract on the authority of CCSC to approve offers of financial incentives to contractors to improve schedule or cost performance.</li> </ol> <p>The Board also <b>NOTED</b> the proposals set out in the paper for more extensive briefing of the Board in relation to intended commercial settlement agreements and cost forecasts.</p>



	<p>It was <b>AGREED</b> also that the Board would review the revised Scheme of Authorities in three month's time to see how they were working.</p> <p><b>Action:</b> Mathew Duncan/Mark Fell</p>						
40/16	<p><b>CRLB 32/16 – Appointment of Finance Director as Executive Director</b></p> <p>The Board:</p> <ol style="list-style-type: none"> <li>1. <b>NOTED</b> that Mathew Duncan had been offered the position of Finance Director at Crossrail, starting from 8 October 2015, subject to Board approval of his appointment as an Executive Board Director of Crossrail Ltd;</li> <li>2. <b>APPROVED</b> the appointment of Mathew Duncan as an Executive Board Director of Crossrail Ltd to take effect from 8 October 2015;</li> <li>3. <b>NOTED</b> that Sponsors had been consulted informally on the appointment of Mathew Duncan to the Crossrail Board as an Executive Director; and</li> <li>4. <b>NOTED</b> that David Allen would resign as an Executive Board Director of Crossrail Ltd from 8 October 2015.</li> </ol> <p>The Board <b>RECORDED</b> its thanks to David Allen for his valuable contribution to the Crossrail Project during his time as Finance Director and wished him well for the future.</p>						
41/16	<p><b>Minutes of Board Committees for Reference</b></p> <p>The Board received the following minutes for reference:</p> <table data-bbox="309 1167 1431 1234"> <tr> <td>Executive and Investment Committee</td> <td><b>EIC MIN 150903</b></td> <td>Andrew Wolstenholme</td> </tr> <tr> <td>Health and Safety Committee</td> <td><b>HS MIN 150908</b></td> <td>Andrew Wolstenholme</td> </tr> </table> <p><b>Verbal Updates of Recent Board Committee meetings</b></p> <p><b>Executive and Investment Committee 1 October 2015</b></p> <p>The following matters had been covered by the Committee:</p> <ul style="list-style-type: none"> <li>• QRA briefing</li> <li>• Legal report</li> <li>• Corporate Objectives for 16/17</li> <li>• Pension legacy arrangements</li> <li>• Whitechapel issues and options</li> <li>• Cancellation of the Big Dig Survey</li> <li>• Commercial decision making governance</li> <li>• Supply chain marketing protocols</li> </ul> <p><b>Health and Safety Committee 5 October 2015</b></p> <p>The following matters had been covered by the Committee:</p> <ul style="list-style-type: none"> <li>• Period 6 Health and Safety Directors' report</li> <li>• Health and Safety Period 7 look ahead</li> <li>• Industry Partner Assurance Review</li> <li>• C340, Victoria Dock Portal, Health and Safety Plan</li> </ul>	Executive and Investment Committee	<b>EIC MIN 150903</b>	Andrew Wolstenholme	Health and Safety Committee	<b>HS MIN 150908</b>	Andrew Wolstenholme
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	<p><b>Audit Committee 21 September 2015</b></p> <p>The following matters had been covered by the Committee:</p> <ul style="list-style-type: none"><li>• Audit and Assurance Update</li><li>• Performance Assurance Update</li><li>• Risk Management Reporting</li><li>• EY's first audit report and audit plan for 2015/16</li></ul> <p>The Board <b>NOTED</b> the Committee reports.</p>
<b>AOB</b>	Terry Morgan reported that good progress was being made with the search for a new Non-executive director. The Panel had agreed a strong shortlist of three candidates who would be interviewed on 14 October.

Signed by:

**Terry Morgan**  
Non-executive Chairman



**Pre-meeting Board Briefing – Thursday 8 October 2015****Members:****In Attendance:****Apologies:**

Terry Morgan <i>Chairman</i>	Victoria Burnett <i>Head of Secretariat</i>	Martin Buck <i>Transition and Strategy Director</i>
Andrew Wolstenholme <i>Chief Executive</i>	Mathew Duncan <i>Finance Director</i>	
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Phil Gaffney <i>Non-executive Director</i>	Paul Grammer <i>Commercial Director</i>	
Terry Hill <i>Non-executive Director</i>	Rob Halstead (part of meeting) <i>Head of Risk</i>	
Robert Jennings <i>Non-executive Director</i>	Richard Palczynski (part of meeting) <i>Head of Controls</i>	
Daniel Moylan <i>Non-executive Director</i>	Will Parkes <i>External Affairs Director</i>	
Simon Wright <i>Programme Director</i>	Howard Smith <i>Operations Director</i>	
	Valerie Todd <i>Talent and Resources Director</i>	

**1. Earned Value Reporting**

Richard Palczynski presented an overview of earned value reporting, highlighting and explaining a number of new metrics introduced to track performance against the schedule:

1. A substantive SPI calculated in the usual way but with reference to a baseline derived from the current control budget plus all relevant unresolved trends and outstanding CEs.
2. A new SPI<sub>(t)</sub> based on the 'Earned Schedule' methodology, where SPI<sub>(t)</sub> is derived from comparing the elapsed time since the project commenced to the time it was planned to have achieved the current work performed (i.e. earned schedule / actual time).
3. A new schedule variance (SV<sub>(t)</sub>) based on the 'Earned Schedule' methodology, where SV<sub>(t)</sub> is reported in units of time, as opposed to money.

The Board **NOTED** the presentation and **REQUESTED** that the topic of earned value reporting should be revisited once the negotiations on the Commercials had been settled.

**Action:** Richard Palczynski



## 2. QRA Update

Rob Halstead presented an overview of the process and results of the Q2 QRA.

The current P50 AFCDC was showing a breach of IP0 of £94m (an increase of £46m from Period 5). Interest forecasts had led to a decrease in IP0 of £12m and the P50 AFCDC had increased by £36m comprising: an increase of £62m of delivery totals; a reduction of £27m of programme risk exposure and an increase in L & P and Indirects costs of £1m.

The presentation included: a comparison of budget/contingency versus forecast/risk; an analysis of the increase in delivery costs; an analysis of the Stations AFCs; the assumptions underpinning the QRA; remaining uncertainties with major contracts; and a status report of activity against actions established at SACR 13 to improve schedule confidence.

The Board **NOTED** the presentation.