For discussion
5 May 2014

Legislative Council Panel on Transport
Subcommittee on Matters Relating to Railways

Latest Position of the Construction of the Hong Kong Section of the Guangzhou-Shenzhen-Hong Kong Express Rail Link

PURPOSE

On 15 April 2014, the Secretary for Transport and Housing (STH) informed the public that the Government had very recently received verbal notifications from the MTR Corporation Limited (MTRCL) that the construction of Hong Kong Section of Guangzhou-Shenzhen-Hong Kong Express Rail Link (XRL) would not be completed by 2015. STH immediately requested MTRCL to submit a full assessment report and provide a full account as soon as possible. A copy of STH's statement on 15 April is at **Annex A**. On the same day, the MTRCL announced that the completion date of the XRL project would be postponed to 2016 with the line ready for operation in 2017 (see press release issued by MTRCL at **Annex B**).

2. This paper provides information on the latest position on the construction of XRL and highlights key findings of the Independent Review Report submitted by the Director of Highways (DHy) to STH. A copy of the Review Report is at **Annex C**. An assessment report prepared by MTRCL in response to a request made by STH is the subject of a separate paper submitted by MTRCL to this Subcommittee.

BACKGROUND

3. The XRL is a 26-kilometer (km) long underground rail corridor. It will run from a new terminus in West Kowloon, going north

passing Yau Tsim Mong, Sham Shui Po, Kwai Tsing, Tsuen Wan, Yuen Long to the boundary south of Huanggong, where it will connect to the Mainland section of XRL.

4. On 16 January 2010, the Finance Committee of the Legislative Council (LegCo) approved the funding for the construction of the railway ($55.0175 billion) and non-railway works ($11.8 billion) of the XRL, amounting to a total of $66.8 billion.

5. On 26 January 2010, the Government and the MTRCL entered into an Entrustment Agreement (EA) for construction, testing and commissioning of the XRL.

6. Currently, there are 20 major civil contracts and 20 major Electrical and Mechanical (E&M) contracts, each with contract value exceeding $50M, as listed at **Annex D**.

THE MONITORING MECHANISM

7. In early 2008, the Railway Development Office (RDO) of HyD commissioned a consultancy to review the institutional arrangements to ensure effective implementation of the XRL project by the MTRCL. The Lloyd's Register Rail (Asia) Limited was engaged and it recommended Government to adopt the monitoring and verification role for the design & construction of the XRL project. On this basis, the monitoring and verification role would effectively be "check the checker", i.e. verifying that MTRCL was implementing their process as specified. This would use a risk based sampling approach to verify delivery of the requirements of the project scope and authorized expenditure.

8. In April 2010, the Government, vide LC Paper No. CB(1) 1573/09-10(04), informed the LegCo of the Government's detailed monitoring mechanism on the construction of the Hong Kong Section of the XRL. A copy of the paper is at **Annex E**. A flowchart on the monitoring mechanism is at **Annex F**.

9. As elaborated in the aforesaid paper, DHy, being the controlling officer responsible for the XRL project, leads a **Project**

Supervision Committee (PSC). The PSC meets on a monthly basis to review project progress and to monitor procurement activities, post-tender award cost control and resolution of contractual claims. The PSC also provides steer on matters that would affect the progress of XRL. The MTRCL is required to submit a progress report setting out the latest progress and financial position of the project. Up till now, the PSC has held 45 meetings, with the last regular meeting held on 2 April 2014 and a special meeting held on 16 April 2014.

10. In addition, an officer at Assistant Director level of the Highways Department (HyD) holds monthly **Project Coordination Meetings (PCMs)** with MTRCL's General Managers and Project Managers to monitor various activities for the delivery of the XRL project including, but not limited to, timely completion of land matters, resolution of third party requests, key issues on the design, construction, environmental matters that may have potential impact on the progress and programme of the XRL project as well as interfacing issues with other projects. From January 2010 to mid-April 2014, a total of 50 PCMs were held.

11. Furthermore, an officer, at Chief Engineer level, holds monthly **Contract Review Meetings** with site supervision staff of the MTRCL for major civil and E&M works. In case of delays encountered by MTRCL's contractors, the MTRCL would report measures being considered to mitigate such a delay. Up to mid-April 2014, a total of 47 CRMs were held.

12. HyD has also employed an **external consultant**, Jacobs China Limited (the monitoring and verification "M&V" consultant), to assist in the monitoring work and undertake regular audits to verify the MTRCL's compliance with its obligations under the EA with Government. The consultant will identify and advise the HyD any potential risk regarding the implementation of the XRL project and comment on the appropriateness of the proposed mitigation measures.

13. Representatives from the Transport and Housing Bureau (THB) sit on the PSC. In addition, DHy updates STH on the project progress at their regular monthly meetings about the work of HyD.

Where necessary, DHy also reports to STH any significant issue relating to the implementation of the XRL. From time to time, HyD and/or MTRCL are requested to provide briefings to THB on major issues relating to the project.

14. Furthermore, HyD has set up a dedicated division under the RDO to oversee the implementation of the XRL project. This dedicated division comprises a total of 13 Civil Engineers posts including a Chief Engineer who is the division head, 4 Senior Engineers and 8 Engineers. In-house support on the advisory service on E&M work and building submissions are provided.

ENTRUSTMENT PROGRAMME

15. As stated in the submission by the Government to the Public Works Subcommittee under the Finance Committee of the LegCo (paper reference (PWSC 2009-10(68)), subject to the approval of the Finance Committee, construction of the railway works of the XRL is expected to commence in December 2009 for completion in 2015.

16. According to the EA, the MTRCL shall use its best endeavours to complete the Entrustment Activities in accordance with the **Entrustment Programme**. According to the Entrustment Programme, the estimated handover date is August 2015. As with other works contracts, there are provisions for extension of time such that the Entrustment Programme may be amended if both parties agree. As of today, no amendment[1] has been made to the Entrustment Programme.

17. It is not unusual for major civil works contracts (in particular those involving extensive underground works in built up urban areas) to experience programme delay whereby the progress of works at a certain moment in time lags behind the programmed level of production due to

[1] The Entrustment Agreement provides that either party to the Agreement may propose, by notice in writing to the other party, material modifications to the Entrustment Programme. If the relevant party wishes to proceed with the material modification proposed by it in such notice, the parties shall endeavour to agree on the scope and extent of the material modification so proposed and the likely effect of such material modification on the Entrustment Cost and the Entrustment Programme.

various project risks. Such delay may be mitigated or even rectified with appropriate mitigation or recovery measures. Since the commencement of the XRL project in 2010, we have instituted a multi-level project monitoring system and, until recently, the MTRCL has repeatedly reassured the Government that the target completion date of 2015 is achievable, and that even though the project has encountered numerous challenges as elaborated below, programmes would be speed up through mitigation or delay recovery measures. On it part, HyD has carried out monitoring works in line with the monitoring framework as reported to the LegCo (see paragraph 8 above). In general, the following regular monitoring actions are carried out:

(i) The M&V Consultant and HyD staff attend monthly Contract Review Meetings in which the site staff of MTRCL of the major contracts report the progress of individual contracts and areas of concern.

(ii) The M&V Consultant and HyD staff carry out site visits and meets with MTRCL's site staff regularly and the M&V Consultant submits monthly reports to HyD.

(iii) HyD at Chief Engineer level attends monthly cost control meetings convened by MTRCL, and provides views on MTRCL's assessment of variations, claims and other cost changes through correspondence or attendance at the MTRCL's Project Control Group meetings.

(iv) HyD at Assistant Director level co-chairs monthly Project Coordination meetings with the General Manager of MTRCL to monitor project progress and to assist in coordination with other Government departments to facilitate the process of works under the project.

(v) DHy chairs monthly PSC meetings attended by the Projects Director of MTRCL and his team. Among other issues, progress is discussed on the basis of Monthly Progress Reports submitted by MTRCL and other available information. When delay is noted by HyD at different monitoring fora, MTRCL is asked to explain the causes of delay and the intended mitigation or delay recovery measures.

18. In sum, during the course of project implementation, the XRL project at various junctures has encountered issues causing delay and remedial measures have been deployed by MTRCL to mitigate the delay. When there was delay against the programmed schedule, HyD would request MTRCL to devise mitigation measures or delay recovery measures to ensure that the overall programme would be maintained.

19. All along, the Government has been working vigorously towards, and shares the public concern with the timely completion of the XRL project. A chronology of events setting out the Government's progress monitoring actions from January 2010 to April 2014 is at **Annex G**. The following paragraphs highlight the Government's major follow-up actions from January 2010 to April 2014.

January – December 2010

20. The first PSC meeting was held on 26 March 2010 whereby the terms of reference and membership was agreed.

21. At the 3rd PSC meeting on 28 May 2010, it was reported that according to the progress back then, the Mainland section of the cross-boundary tunnel would likely suffer a delay of six months. HyD suggested that the issue be discussed with the relevant Mainland authorities. There was minor delay in West Kowloon Terminus (WKT) design, removal and re-provisioning of Nam Cheong Property Foundation and piling works of WKT.

22. At the 6th PSC Meeting on 8 September 2010, it was reported that MTRCL was closely monitoring the architectural design of WKT and resolving outstanding design issues. The piling and diaphragm wall works of WKT were in progress despite the one-month delay. Measures were also being taken to recover the two-month delay in the removal and reprovisioning of the Nam Cheong Property Foundation.

23. At the 9th PSC meeting on 26 November 2010, it was reported that the diaphragm wall of WKT were causing concern and actions were being taken to solve the problem. Furthermore, MTRCL reported that there was a five-month delay in the removal and

reprovisioning on Nam Cheong Property Foundation; and a one-month delay in the piling works of WKT. MTRCL was requested to devise measures to catch up the delay.

January – December 2011

24. At the 13th PSC meeting on 29 April 2011, MTRCL reported that the removal and re-provisioning of Nam Cheong Property Foundation encountered a delay of 39 weeks. HyD requested MTRCL to devise measures to catch up the delay. MTRCL reported that the delay in other contracts was relatively minor and expected to be recovered in the coming months.

25. At the 16th PSC meeting on 29 July 2011, it was reported that the pile removal at Nam Cheong had shown some improvement but was still lagging behind the target date. Separately, MTRCL reported that the Mainland contractor had indicated the late arrival of the TBMs at the boundary by seven months.

January – December 2012

26. At the 21st PSC meeting on 24 February 2012, it was reported that the overall site progress was about two to three months behind schedule and delay recovery measures would be deployed. MTRCL was reminded that the contractors should be responsible for completing the works on time and any decision on implementing delay recovery measures with cost implications should be made with prudence.

27. At the 22nd PSC meeting on 30 March 2012, it was reported that delay recovery measures were to be agreed with the contractors in the following two months so that progress could be monitored against realistic programmes and the whole project could be completed as scheduled.

28. In July 2012, the Chief Executive Officer (CEO) of MTRCL wrote to STH stating that MTRCL maintained their target to complete all works to enable the successful opening of the XRL in 2015 as planned. Amongst others, he highlighted the cross-boundary tunnel as one of the

challenges that "we need to focus". THB responded by saying that HyD had registered concern about the cross-boundary tunnel to the relevant Mainland authorities.

29. In August 2012, HyD met with the relevant Mainland authorities expressing concern with the cross-boundary tunnelling works and the latter undertook to take measures to expedite the works.

January - June 2013

30. At the 31st PSC meeting on 25 January 2013, MTRCL said that there was some slippage in the WKT excavation progress and that should be caught by mid-2013. For the cross-boundary tunnel, the delay was up to one year which would impact on the programme of works of tunnelling works on Hong Kong side (Contract 826). MTRCL was exploring measures to compress the works of Contract 826 and expedite other activities so as to absorb the delay in order to complete the works in 2015.

31. In March 2013, HyD received a progress report from the MTRCL and owner of the Mainland Section of the XRL on the progress of the cross-boundary tunnelling works to the Government. According to the report, the two TBMs driving towards the Shenzhen/Hong Kong border was under a delay of about 10-11 months, and testing and commissioning of the XRL might begin in July 2015. Measures were being explored to expedite works.

32. According to information furnished by the MTRCL, as at April 2013, there was an overall progress delay of about seven months and that they were working with the Contractors on mitigation measures and delay recovery measures. Despite the progress delay, MTRCL maintained the target of completion within 2015 and stated that the progress was expected to be greatly improved as substantial tunneling works would be completed in the coming months. In view of the dedication shown by MTRCL to adhere to the completion target, the active work they were doing in developing mitigation measures with the Contractors and the availability of areas for improvement, based on his professional judgment and past experience with major construction

projects, DHy did not, at the time, rule out the possibility for MTRCL to achieve the target.

33. On 7 May 2013, there was a media report claiming that the XRL project would be delayed by a year with significant cost over-run. Amongst other things, the report claimed that the major delay lay with the construction of the WKT, which would result in a delay of at least one year and cost overrun up to $4.4 billion. According to information provided by MTRCL, the Government replied to the media that the completion of XRL remained at 2015.

34. Taking note of the growing concern with the matter, THB and HyD requested the MTRCL to review the latest position and get ready to brief the LegCo Subcommittee on Matters Relating to Railways (RSC) at its next meeting on 24 May 2013.

35. On 23 May 2013, a meeting was held among THB, HyD and MTRCL to further review the latest position of the project. The paper (CB(1)1072/12-13(03)) was submitted to the RSC (attached at **Annex H**) on the basis of assurances the Government received from MTRCL. In paragraph 2 of the paper, the Government stated that –

> "*[t]he construction is targeted for completion in 2015. We spare no effort in monitoring the works entrusted to MTRCL to ensure the implementation of the XRL project is within the approved project estimate, of good quality and on schedule. We will continue to work closely with the parties concerned to ensure that the XRL works will be completed as scheduled within the approved budget*".

36. At the RSC meeting on 24 May 2013, STH stated that it was not uncommon for some activities to encounter delay against the original programme. In the case of the WKT, it is an underground station as deep as at 26 meters below ground and its construction is very complicated and involves careful coordination. MTRCL and the contractors have been exploring feasible measures to catch up with the programme so that the completion of the construction of XRL would not be affected. See his remarks at **Annex I**

37. Following the above RSC meeting, DHy reminded MTRCL at the PSC meeting on 30 May 2013 that if the delay rendered the current target completion not achievable, HyD should be informed as early as possible. MTRCL confirmed that they would do so and said that they would continue to keep close monitoring of the situation.

38. At the PSC meeting on 28 June 2013, MTRCL reported that they would consider implementing a series of short and medium term mitigation measures to catch up the programme. A presentation on the revised WKT programme and the overall master programme would be arranged for HyD. HyD was subsequently briefed in August and September 2013 with details as described in paragraph 40 below.

July – October 2013

39. On 23 July 2013, at the invitation of THB, HyD and MTRCL conducted a briefing for THB on the construction progress of XRL. The latest position of various major contracts including cross-boundary section was reported. It was forecast that the cross-boundary tunnel civil works would complete by March 2015 and testing across boundary would commence in July 2015. MTRCL advised the Government that the target for revenue service would be **December 2015**. Extracts of the powerpoint presentation is at **Annex J**. THB reminded MTRCL to make its best endeavour to deliver the project on time and within budget.

40. In August and September 2013, MTRCL approached HyD to explore a partial opening scenario whereby essential parts of the works would be completed towards the end of 2015 whereas testing and trial runs would start following the completion of various sections of tunnels with the aim of allowing partial operation (sufficient to meet early year demand) by the end of 2015. Under the partial opening scenario, six out of the 15 tracks and the essential railway facilities should be ready to provide passenger service. As there was inadequate information supporting the feasibility of the partial opening scenario, HyD, without indicating agreement to the proposal, requested MTRCL to provide further information such that a report could be made to THB.

October - November 2013

41. On 22 October 2013, based on information by HyD, it was reported to STH that the cross-boundary tunnelling works continued to encounter delay. If the delay could not be mitigated, testing and commissioning of the XRL could only start in October 2015, thus impacting on the overall commissioning date for the XRL. At the same time, the MTRCL had recently proposed a target of partial opening of XRL (putting into service six tracks by end-2015) and a full Day 1 commissioning (including 10 tracks) in mid-2016. This was based on the latest progress of works, taking into account all delay recovery measures being implemented in various contracts. The WKT and the cross-boundary tunnel section were on the critical path of the XRL project and any further delays at either of these might affect the target commissioning date of the XRL. Mitigation measures such as re-sequencing of works and phased access of E&M installation works were under consideration. Based on the latest financial situation and status of contract claims, it was considered that the expenditure of the project could be kept within the approved project estimate. In view of the latest development, THB requested MTRCL and HyD to provide a detailed briefing on the latest progress of the project.

42. At the PSC meeting on 29 October 2013, MTRCL reported an overall progress delay of about nine months for the WKT, and 11 months for the Contract 826 tunnel. While HyD had expressed concern, MTRCL stated that they had been working hard to catch up the progress with a view to meeting the proposed target opening scenario. HyD requested that MTRCL provide information on the roadmap towards the proposed XRL opening scenario for assessing and monitoring against the actual progress.

43. On 8 November 2013, HyD (represented by DHy) and MTRCL (represented by Projects Director) were invited to brief the Permanent Secretary for Transport and Housing (Transport) (PST) on the latest position of the XRL project. MTRCL presented the progress of XRL works including the WKT and 826 tunnelling works. At the meeting, MTRCL stated that WKT could be ready for partial opening scenario by December 2015. As for the 826 tunnelling works, they

could only be completed by October 2015 and the testing of XRL (which would normally take three months) could only commence from October 2015. As it would take another three months to conduct trial runs, the target opening date of end-2015 might be affected. THB queried if the testing of XRL could only commence from October 2015, it would be unlikely that the XRL could start operation by end-2015. If that was the case, the public should be informed as soon as possible. A similar briefing was conducted for STH by HyD on 20 November 2013. Based on the assessment of works progress, THB contemplated making it public at the RSC meeting scheduled for 22 November 2013 that the XRL might only commence operation after 2015 and explaining the latest construction progress and the actual challenges encountered.

44. On the following day (21 November 2013), the CEO of MTRCL called STH, expressing disagreement with reporting to RSC that the target for commencing operation in 2015 could not be met. The CEO stressed that it was still feasible to complete all the works and that the XRL could commence operation by end-2015.

45. As directed by STH, an urgent meeting was held amongst THB (led by PS(T)), HyD and MTRCL (led by CEO) in the evening of 21 November 2013. MTRCL emphasized that it was imperative that the target of 2015 be adhered to, lest MTRCL would lose its leverage to press its contractors to push forth the project. MTRCL added that it was still possible for the XRL to complete and commence operation within 2015. THB pointed out that according to an earlier briefing by MTRCL, XRL had encountered problems at WKT and the cross-boundary tunnelling works. THB enquired why MTRCL remained of the view that XRL could be completed and commissioned in 2015. MTRCL said that it was trying hard to identify solutions to meet this target; at the very least, single track operation[2] was possible. THB stated that single track operation did not comply with government's requirement and was therefore unacceptable. THB reiterated that while it was appreciated that MTRCL needed to use the 2015 target to continue exerting pressure on its contractors to expedite the works, the Government needed a

[2] Single track operation scenario is to use a single tunnel for the northbound and southbound trains, running alternatively between WKT and the boundary of the Mainland.

realistic assessment and should alert the public immediately if the target was not achievable. THB said that based on MTRCL's information, the XRL would only be ready for testing in October 2015 and queried if the XRL could be commissioned in time within 2015. It was noted that there was delay in the cross-boundary tunnelling works, and such delay would eat into the time for the tunnelling work on Hong Kong side, thus posing challenges to MTRCL. MTRCL responded that they would be in a position to assess the impact once the cross-boundary tunnelling works were completed on the Mainland side and commenced on the Hong Kong side. THB cautioned MTRCL not to over-state its ability to overcome the challenges. After much discussion, the meeting concurred that while the target of 2015 should be maintained at that stage, the Government and MTRCL should be upfront with the challenges faced by the project when attending the RSC meeting the following day. Meanwhile, MTRCL should provide the Government with a clear roadmap on how the target could be met.

46. At the RSC meeting on 22 November 2013, the Government stated that based on the latest assessment of MTRCL, the major works of the XRL could be completed within 2015. Thereafter, testing and trial runs will be conducted. Normally, this would take six to nine months. The railway might only come into operation after the relevant authorities have approved the test results so as to ensure the safety and reliability of the railway service.

47. After the RSC meeting, at the PSC meeting on 29 November 2013, MTRCL presented a roadmap towards the proposed target opening scenario, which set down the target dates for completion of all civil works and E&M works by June 2015 for testing and commissioning. DHy was not satisfied because the roadmap was very brief and only listed out the target completion dates without any milestones for assessing and monitoring whether the target dates could be met. MTRCL undertook to arrange another briefing to provide more details on the proposed XRL opening arrangement, including the readiness of WKT external works and public areas.

December 2013 – April 2014

48. Subsequently, at the PSC meetings in January and February 2014, DHy expressed his continued concerns on the programme slippage against the original schedule. MTRCL said that it would review the overall programme situation and present to HyD in April 2014 the latest forecast opening arrangement and commissioning timeframe. Apart from the progress of works, DHy reiterated the importance of financial control to ensure project delivery within the approved budget. At the February 2014 meeting, MTRCL said that they had been working closely with the contractors on measures to catch up with the construction programme.

49. At the Project Coordination Meeting on 18 March 2014, MTRCL still maintained that the project was targeted for completion in 2015.

50. At the PSC meeting on 2 April 2014, in response to HyD's concerns about the continued programme slippage, MTRCL said that it was still reviewing the overall picture of the project delivery and had scheduled to give a briefing to HyD on 7 May 2014 on the forecast project commissioning date and updated financial position. At the same meeting, MTRCL reported that a minor slope failure at the side of a drainage channel at Shek Kong had caused flooding of the lower end of the tunnel including the north drive TBM and that the contractor was assessing the damage to the TBM. HyD requested MTRCL to report the detailed findings of the incident and their assessment on the associated cost and programme impacts. At the time of writing this paper, MTRCK has yet to provide a report on the issue to HyD.

51. In the weekend of 12 and 13 April 2014, the CEO and Chairman of MTRCL, respectively, called STH urgently informing the latter that the completion date of 2015 could not be met. The CEO of MTRCL said that XRL construction works could only be completed by end-2016 and that service could only be commissioned in 2017. More details had yet to be ascertained. Since MTRCL had, over the past many months, repeatedly given reassurances to THB and HyD at different levels that, despite delays in progress, the target completion date of 2015

could still be met with delay recovery measures, STH was taken by surprise. He demanded MTRCL to provide a full assessment report on the construction progress including a full and proper account for the substantial delay. He also tasked DHy to provide him with an independent review and assessment of the construction progress of XRL, including an assessment on the reasons for the substantial delay.

52. On 14 April 2014, an urgent meeting was held at THB attended by, amongst others, the Chairman, CEO and Projects Director of MTRCL to review the latest situation. At the meeting, it was agreed that THB (STH himself) and MTRCL should come out on the following day to inform the public, and to make a report to the RSC at the meeting originally scheduled for 2 May 2014 to explain the situation.

FACTORS CAUSING PROGRESS DELAYS

53. DHy has assessed the current progress of the construction works of the XRL. Details are set out in Sections 5 and 6 of his report (Annex C). There are seven civil works contracts which warrant particular attention – Contracts 810A, 810B and 811B for the construction of the WKT and its Approach Tunnel; and Contracts 820, 823A, 824 and 826 on tunnel construction[3]. These Contracts have suffered various degrees of delay even though substantial measures have been/are being taken to mitigate the delay as elaborated in the aforesaid report. DHy is of the view that there were a number of issues during the construction of the XRL which had affected the progress of various contracts, resulting in progress delays. Unfavourable ground conditions, with some being unforeseen, is a common primary cause in many of these issues, affecting the whole spectrum of works, including TBM tunnelling, drill-and-blast tunnelling, diaphragm wall construction and excavation. Other causes include contractors' resources, workmanship and logistic problems, interfacing issues and coordination problems of contractors,

[3] Contract 810A - West Kowloon Terminus Station North
Contract 810B - West Kowloon Terminus Station South
Contract 811B - West Kowloon Terminus Approach Tunnel (South)
Contract 820 - Hoi Ting Road to Mei Lai Road
Contract 823A - Tse Uk Tsuen to Tai Kong Po
Contract 824 - Tai Kong Po to Ngau Tam Mei
Contract 826 - Mai Po to HK boundary

utility diversions, temporary traffic diversion constraints, and inclement weather, etc.

54. In the monthly report furnished by the MTRCL on the XRL project, progress of individual contracts is compared with the original programme in the form of percentages. Where there is progress delay, there will be mitigation measure to recover the delay. In the process, MTRCL will discuss with the contractors and formulate revised target programme for critical component(s) of the works. HyD will use this revised target programme to continue monitoring the works. The existence of progress delays under individual contracts does not necessarily imply that completion of the Project would be delayed. The overall progress is also an important consideration. From the experience in other major works contracts, a contractor could adopt mitigation and recovery measures to catch up progress delays. The increase in manpower, plant and working overtime is of course one of the possible measures. The important thing is to avoid affecting the commencement of subsequent critical work activities. Through splitting of work processes into parts and re-sequencing of work flow, delayed activities could be moved away from the critical path. An example is the delayed completion of an excavation process. If the completion sequence of the different parts of the excavation process could be arranged such that the subsequent work process, e.g. construction of station structure, could commence timely within the area already excavated, the process delay could be mitigated. The overall completion programme of the XRL project would not be affected.

55. Mitigation measures and delay recovery measures have been implemented by MTRCL to address these issues. Such mitigation measures include the adoption of alternative construction method; re-arrangement of construction sequence; deployment of additional resources, etc. However, as at early April 2014, there are residual progress delays at various fronts and MTRCL have yet to demonstrate what further mitigation measures could be taken to catch up with the delay. While MTRCL had earlier undertaken to demonstrate to HyD how the Corporation could complete the works by 2015, as events evolved, the Corporation informed the Government on 12 April that the target of 2015 could no longer be met.

56. As elaborated in Section 7 of his report, DHy is of the view that before the flooding event in end-March 2014, Contract 810A and Contract 826 were more critical to the timely completion of the whole Project. After the flooding incident, Contract 823A has also become critical. For Contract 810A, progress had been and is still affected by unfavourable ground conditions, utility diversion complications, site coordination and inadequate work fronts. MTRCL has to properly address these issues in particular speeding up the removal of the rock outcrop near the northern end of the Station. If the residual progress delays in this Contract could not be mitigated, there would be direct effect on the completion of the XRL Project. For Contract 826, progress had been affected by the late arrival of the TBMs from Huanggang. If MTRCL could not speed up the excavation rate of the TBMs as planned, there would be direct delay effect on XRL as well. For Contract 823A, progress had been affected by the slow excavation rate of the two TBMs. The flooding of one of the TBM has made things worse. If salvage of the TBM machine and the recovery actions could not be taken expeditiously, there may be the possibility that this Contract will become the most critical.

PROJECT COMPLETION DATE

57. After the press conference held by MTRCL on 15 April 2014, HyD asked MTRCL for a detailed work plan related to the newly announced completion date of 2016. At the time of writing this paper, MTRCL has yet to provide such information. DHy stated in his report that Contract 810A relating to the construction of the northern part of WKT is one of the contracts critical to the completion of XRL. It is a very complicated project and the outstanding works involves many different categories of works dependent on each other. HyD is not able to make an assessment whether the end 2016 completion date is attainable until MTRCL could provide a detailed work plan showing how interfacing issues are to be resolved and whether the assumed production rates are reasonable.

OBLIGATIONS

58. As the Government has not received the assessment report from MTRCL as the time of writing this paper, we are unable to comment on whether MTRCL has breached its obligations under the EA, and if so, how the Government may/should deal with such a breach, if any. The following section provides a general overview on MTRCL's obligations in discharging the XRL project.

59. As provided in the EA, MTRCL shall use its best endeavours to complete, or procure the completion, of the Entrustment Activities in accordance with the Entrustment Programme; and to minimize any delay or other effect which any modifications may have on the Entrustment Programme. At any time the MTRCL is in material or persistent breach (or Government, acting reasonably, suspects that the Corporation is in material or persistent breach) of any of the Corporation's material obligations under the EA, Government shall be entitled to verify the MTRCL's compliance with the MTRCL's obligations under the EA.

60. In the event of any errors or omissions by MTRCL which constitutes breaches of the EA by the MTRCL and as a result of which the re-execution of the Entrustment Activities is required, the MTRCL shall, if required by the Government, at its own cost re-execute (or procure the re-execution of) such Entrustment Activities to the reasonable satisfaction of the Government.

61. Should there be a delay and to the extent that the delay in question is not covered by any modification or adjustment to the Entrustment Programme, it may amount to a breach of the MTRCL's obligations under the EA and the Government may have a claim for general damages against the MTRCL for such a breach.

62. In addition, the MTRCL warrants the Government on a number of matters including that the Entrustment Activities that relate to the provision of project management services, such Entrustment Activities shall be carried out with the skill and care reasonably expected of a professional and competent manager whose role includes co-ordination, administration, management and supervision of the design

and the construction of works. Should the delay in question involve a breach of MTRCL of any of its warranties, Government may have a claim against MTRCL for breach of warranties.

63. Furthermore, as a matter of general contract law, if it can be proved that MTRCL has breached any other contractual obligations on the part of the MTRCL, the Government may also claim against MTRCL for breach of contract.

PROJECT COST

64. As at the end of February 2014, 40 major construction contracts[4] together with other minor contracts were awarded with a total awarded value of $45.02 billion. They included contracts for tunneling works, construction works of the WKT and E&M works, which amounted to about $22.45 billion, $14.59 billion and $7.98 billion respectively. The cumulative expenditure for the awarded contracts was $35.361 billion. We have earmarked, in the funding for the XRL project, provisions for unforeseen situations in the course of construction, and the project contingencies amounted to about $5.4 billion at 2009 price level. Up to end-March 2014, the contingency balance of the entrusted works is about $3.7 billion.

65. In the light of the latest development, the Government has requested the MTRCL to minimize the delay and contain any additional costs within the approved budget. The Project Management Cost to be paid by the Government to the MTRCL shall be kept at $4.59 billion and will not be increased.

THE WAY FORWARD

66. It has been the Government's target to complete the works for the Hong Kong Section of the XRL within 2015. Upon receipt of MTRCL's full assessment report, we will critically review whether the new completion date recommended by MTRCL is achievable and report to the RSC and the public as early as possible. We will also report

[4] Major construction contract means individual contract with value about $50 million.

further to RSC on the issues of implementation and progress of the project under the EA as well as project cost, once we can come to clearer views on the pertinent issues.

67. Although project delays are sometimes unavoidable due to site complications, weather conditions and engineering problems, we take the progress of major transport infrastructure projects seriously. Hence we must get to the bottom of the serious XRL delay so that the same mistakes will not be repeated in future.

68. In light of the widespread public concern about the XRL delay and the reasons behind it, which might reflect problems in MTRCL's project management and costs control system, as well as the present project monitoring mechanism by both the Corporation and the Highways Department, the Government has decided to set up an Independent Experts Panel to conduct a thorough examination of existing systems and practices, and relevant issues, and to make any recommendations for improvement. The MTRCL Board has expressed full support to such examination and undertaken to facilitate having regard to the relevant legal arrangements. The composition and the terms of reference of the Independent Experts Panel will be announced shortly.

Transport and Housing Bureau
April 2014

Press Releases

Transcript of remarks by STH
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Following is the transcript of remarks by the Secretary for Transport and Housing, Professor Anthony Cheung Bing-leung, at a media session today (April 15) on the construction works of the Hong Kong section of the Guangzhou-Shenzhen-Hong Kong Express Rail Link at the West Wing lobby, Central Government Offices, Tamar:

Secretary for Transport and Housing: You are aware that the Government has entrusted the construction of the Guangzhou-Shenzhen-Hong Kong Express Rail Link Hong Kong Section to the Mass Transit (Railway) (MTR) Corporation Limited. The construction work started in January 2010. Late last year on November 22, when the Government made its regular report on the express rail project to the railways subcommittee (Subcommittee on Matters Relating to Railways) of the LegCo (Legislative Council), based on the information supplied by the Corporation, we informed the LegCo that our objective remained to have the construction works completed in 2015. Following which there will be a period of six to nine months for testing and trial runs. And after that, of course, the rail service will be commissioned. However, over the last weekend, I was informed by the Chairman and the Chief Executive Officer of the MTR Corporation that based on the latest assessment of the progress of the construction works, the project will be subject to some delay. And it will not be possible for the works to be completed in 2015.

I have to say I was totally caught by surprise by such information, and obviously I felt very disappointed and deeply concerned about the delay. So I've asked the Corporation to provide me with a full assessment report on the progress of the construction work as soon as possible. The Corporation is also asked to explain the situation to the public as soon as possible.

I understand that the Corporation will be holding a media conference this afternoon. Separately, I've asked the Director of Highways to conduct an independent review and assessment of the project progress. We are aiming to make a report to the railways subcommittee of the LegCo at its meeting early next month on May 2.

Reporter: Any legal consequences for the MTRCL? Is it going to cost much more?

Secretary for Transport and Housing: At the moment I'm still awaiting a full assessment report from the MTR Corporation. Of course various questions will be asked including the question that you've raised. But at this stage I don't think I can be more specific on the matter. I understand the Corporation will be holding a press conference later on to explain the situation.

(Please also refer to the Chinese portion of the transcript.)

Ends/Tuesday, April 15, 2014
Issued at HKT 16:40

NNNN

新聞稿
Press Release

PR029/14
15 April 2014

Revised Programme for Hong Kong Section of Express Rail Link Project

A tunnel boring machine (TBM) severely damaged by floodwater is affecting progress on the Hong Kong Section of the Express Rail Link (XRL) project. This unforeseen challenge has added to the difficulties of the project and will push the completion date to 2016 with the line ready for operation in 2017.

"The Express Rail Link project is a very large undertaking and immensely complex. Since construction began, we have been presented with numerous challenges which have put pressure on our schedule," said Mr T C Chew, Projects Director of MTR Corporation. "We have been very focused on catching up through fine-tuning designs and adjusting the construction works but this latest situation with the TBM makes it clear that completion of the project by 2015 is not achievable."

During the black rainstorm on 30 March 2014, a section of tunnel in Yuen Long connecting Tsat Sing Kong and Tai Kong Po was flooded when heavy rain washed soil and debris into the work site, blocking the surface drains. As a result, flood water found their way into the partially bored tunnel where the TBM was located.

After clearing the site, the MTR project team, the contractor and TBM manufacturer conducted detailed inspection of the TBM to assess the extent of the damage. Their findings have concluded that substantial repair work is required, particularly complete replacement of the sophisticated electronic components, before the TBM can become functional again. Further studies are being carried out to determine whether the TBM should be repaired or if an alternative method should be used to finish excavating the remaining tunnel section. The current assessment is a prolonged delay of up to nine months in the construction programme.

There are two other critical locations where the challenges are of particular concern. One is the extremely difficult ground condition at the West Kowloon Terminus site. The underground rock strata sitting at a higher than expected level is requiring more time to excavate. But progress has also been hindered by boulders and uncharted utilities that had to be negotiated during the excavation process.

The second critical challenge involves the complex geology at the cross-boundary section of the tunnels under the protected wetland area. As marble caverns are known to be located in the zone, tunnel boring work have to proceed with extreme care and any unforeseen circumstances will have to be dealt with as they surface.

"As you can appreciate, the unforeseen challenges of this project are great. Difficult ground conditions, unforeseen obstructions and the black rainstorm have all impacted our programme. While we make every effort to complete the XRL project as early as possible, we will strictly uphold our 'safety first' principle in the management of our worksites and the safety of our workers," added Mr Chew.

"Taking all this into account, we needed to set out a new timeline for the completion of the project, with major construction works to be finished within 2016. With the time required for testing and commissioning to ensure safe operations, the opening of the line for passenger service will be in 2017. We recognise the Government has entrusted the management of this project to us and we are sorry to have to bring forth this revised schedule. Nevertheless, this will now allow us to complete this project and deliver an important addition to Hong Kong's transportation network."

- End –

Annex C

THE HONG KONG SECTION OF

GUANGZHOU – SHENZHEN – HONG KONG

EXPRESS RAIL LINK

INDEPENDENT REVIEW REPORT

Prepared by

Highways Department
The Hong Kong Special Administrative Region

APRIL 2014

TABLE OF CONTENT

ANNEXES

1. INTRODUCTION

1.1 Background

1.1.1 The Hong Kong Section of the Guangzhou – Shenzhen – Hong Kong Express Rail Link (the XRL) was entrusted to the MTR Corporation Limited (MTRCL) for design, construction, testing and commissioning, including all civil, architectural, building services, fire safety provisions, railway, electrical and mechanical (E&M) systems, trackwork and procurement of rolling stock, equipment and systems under an Entrustment Agreement executed in January 2010.

1.1.2 On 12 April 2014, the Government was informed by MTRCL that the completion of the XRL project would suffer substantial delay. In MTRCL's Press Conference held on 15 April 2014, MTRCL announced the postponement of the completion date to 2016 and that the XRL will only come into service in 2017.

1.1.3 On 15 April 2014, the Highways Department (HyD) was tasked by the Transport and Housing Bureau (THB) to carry out an independent review and assessment on the construction progress of the XRL, including an assessment on the reasons for the substantial delay.

1.2 Review Methodology

1.2.1 The Review has included the independent views from the Monitoring & Verification Consultant, Jacobs China Limited, (the "M&V Consultant") employed by HyD under the XRL project, and has made reference to information available from MTRCL including the Monthly Progress Reports and discussions in regular monitoring meetings, including Project Supervision Committee (PSC) and Project Coordination meetings established between the HyD and MTRCL, as detailed in section 3.2 below. A list of abbreviations used in this report is given Annex1.1.

1.2.2 We have requested MTRCL on 16 April 2014 to provide us with information on the latest progress situation and their current plan on mitigation and delay recover measures, and in particular the new target programme, if any, and the investigation report on the damage to the tunnel boring machine in Tsat Sing Kong together with recovery plan. Limited information has been provided by MTRCL so far. This Report is compiled based on the information available to us up to early April without

the benefit of seeing the latest information from MTRCL.

2. THE EXPRESS RAIL LINK PROJECT

2.1 Background

2.1.1 The XRL is a 26-kilometre (km) long underground rail corridor. It will run from a new terminus in West Kowloon, going north passing Yau Tsim Mong, Sham Shui Po, Kwai Tsing, Tsuen Wan, Yuen Long to the boundary, where it will connect to the Mainland section seamlessly for through train services. Along the whole tunnel alignment, there will be eight ventilation buildings and one emergency access point. An emergency rescue station (ERS) and Shek Kong stabling sidings (SSS) will be located at Shek Kong of Yuen Long. A plan showing the proposed alignment of the XRL is at **Annex 2.1**.

2.1.2 Currently, there are 20 major civil contracts and 20 major E&M contracts, each with contract value exceeding $50M, as listed at **Annex 2.2**. The demarcation plan of the tunnel contracts is attached at **Annex 2.3**.

2.2 Project Programme

2.2.1 According to the Entrustment Agreement (EA) for the XRL project, MTRCL shall use its best endeavours to complete the Entrustment Activities in accordance with the Entrustment Programme (subject to adjustment under justifiable situation). The Entrustment Programme indicates that the XRL project would complete testing and trial running, and ready for operation in August 2015.

2.3 Factors Which May Affect the Progress of the XRL Project

2.3.1 According to the nature of the works of the XRL project, its construction works can be grouped into two categories, namely the West Kowloon Terminus (WKT) and the Approach Tunnels which are constructed by cut-and-cover method, and the 26 km tunnel.

2.3.2 <u>WKT and the Approach Tunnels</u>

The WKT is located within a footprint of approximately 110,000 m^2 in West Kowloon with the MTR Austin Station to the east, West Kowloon Cultural District (WKCD) to the south, MTR Kowloon Station to the west and Jordan Road to the north. The WKT will be a 4-level underground station with a total of 380,000 m^2 gross floor area.

Above ground, the station will be signified with a steel entrance structure with sophisticated design. It is intended to become a landmark representing the high speed train terminus. The construction of WKT and the associated approach tunnels are split into four contracts as shown below:

Contract No.	WKT and Approach Tunnels
810A	West Kowloon Terminus Station North
810B	West Kowloon Terminus Station South
811A	West Kowloon Terminus Approach Tunnel (North)
811B	West Kowloon Terminus Approach Tunnel (South)

Note: The details of the individual contracts are given in Chapters 5 and 6.

2.3.3 General issues in deep-underground open excavation works in a built-up area with heavily used public roads

Extensive open excavation works will be carried out for the construction of the WKT and its Approach Tunnels. There are the following common issues which may affect the construction of deep-underground open excavation works in a built-up area with heavily used public road within and surrounding the site:

(a) Difficulty in ascertaining the underground conditions such as sub-soil conditions, exact position of underground utilities and the presence of other obstructions;
(b) Requiring extensive existing roads and utility diversions to be put in phases for carrying out the construction works;
(c) Difficulty in providing site access due to constraints imposed by the need to maintain the adjoining road network; and
(d) Requiring completion of water tight diaphragm wall system for protecting adjoining ground.

2.3.4 In addition, due to the complexity of the underground WKT station coupled with the extensive special-designed steel roof supported on mega columns, the following key issues are specific to the WKT site:

(a) Requiring sophisticated lateral supporting systems at different stages of construction;
(b) Requiring attention on the proper loading development in various stages of construction of the special-designed steel roof; and
(c) Requiring effective co-ordination of the complicated interfacing arrangements among the various Contractors of different trades.

2.3.5 Tunnel Construction

In the XRL project, apart from the Approach Tunnel contracts to WKT, there are eight major tunnel contracts as listed below.

Contract No.	Tunnel Section
820	Hoi Ting Road to Mei Lai Road
821	Mei Lai Road to Shek Yam
822	Shek Yam to Tse Uk Tsuen
823A	Tse Uk Tsuen to Tai Kong Po
823B	Shek Kong Stabling Sidings & Emergency Rescue Siding
824	Tai Kong Po to Ngau Tam Mei
825	Ngau Tam Mei to Mai Po
826	Mai Po to HK boundary

Note: The details of the individual contract are given in Chapters 5 and 6.

2.3.6 The XRL tunnels are constructed mainly using two excavation methods namely, the use of a Tunnel Boring Machine (TBM) or the conventional "Drill-and-blast" method.

2.3.7 TBM Method

TBMs have been widely and commonly used in tunnel construction in Hong Kong and worldwide. This construction method has minimum impact to the environment and the neighbouring communities. During tunnel construction, the excavated face will be supported by the shield near the front of the TBMs. Permanent precast segmental tunnel linings (walls) will be installed immediately behind the cutter head of the TBM as the TBM advances.

2.3.8 Drill-and-blast Method

Drill-and-blast method is also proven to be a safe and effective method for tunnel construction and is commonly adopted for excavation of tunnels located deep in rock. The method consists of drilling holes in the rock face and installing explosives in these holes for blasting. The blasted rock face will firstly be stabilized and then the rock fragments will be disposed of. After then, tunnel linings will be constructed.

2.3.9 General issues in TBM and Drill-and-blast methods

The TBM method is effective in excavating through soil and rock strata with a reasonable soil/rock support during its operation. However, TBMs cannot drill through metal or other hard artificial materials. Therefore, the TBM progress will be greatly affected by the presence of uncharted underground utilities or unforeseen abandoned hard metal obstructions which will require manual cutting/removal before

the TBM can advance further. Furthermore, when weak ground or instability of soil such as cavities in marble area is encountered, the weak ground has to be stabilized by substantial ground treatment and strengthening works before the TBM can advance through.

2.3.10 For the Drill-and-blast method, progress will be greatly affected by the presence of weak rock or fault zones as slower mechanical breaking method together with appropriate temporary protection works to be adopted instead.

3. MONITORING SYSTEM

3.1 Background

3.1.1 In early 2008, the Railway Development Office (RDO) of HyD commissioned a consultancy to review the institutional arrangements to ensure implementing the XRL project by MTRCL efficiently. The Lloyd's Register Rail (Asia) Limited ("Lloyd's") was employed to carry out the study. One of the key areas investigated by Lloyd's was with respect to what project management procedures should be adopted to deliver the XRL project if it was entrusted to MTRCL by the Hong Kong Government under the concession approach. Lloyd's considered that MTRCL's processes were known to be robust and in line with industry best practice, and MTRCL was regularly reviewed and audited by outside bodies and had been proven and refined through the delivery of many high quality railway projects in Hong Kong and abroad. Lloyd's also identified that in general there were many similarities between the processes adopted by MTRCL and the Hong Kong Government. Lloyd's therefore recommended that MTRCL's project management procedures for the delivery of the XRL project should be adopted but allowing Government representation in key control processes, and Government to conduct monitoring and verification of its interests in the design and construction of the XRL project. This monitoring and verification role would effectively be "check the checker", i.e. verifying that MTRCL were implementing their process as specified. This would use a risk based sampling approach to verify delivery of the requirements of the project scope and authorized expenditure. Lloyd's also advised that the Hong Kong Government's resources should be utilized effectively to avoid repetition and micro management of the project. Lloyd's recommendations formed the framework of the monitoring system adopted by the Hong Kong Government for the delivery of the XRL project by MTRCL.

3.1.2 Under the current EA for the XRL project, MTRCL is responsible for the overall management of the project. In doing so, MTRCL has to comply with its own management systems and procedures. MTRCL also has the obligation to provide any information concerning any matters relating to the XRL project as requested by the Government.

3.2 Monitoring Regime for the Progress, Programme and Cost of the XRL Project

3.2.1 Setting up of Special Team in HyD

3.2.1.1 HyD has set up a division to oversee the implementation of the XRL project. This division comprises a total of 13 Civil Engineers posts including a Chief Engineer who is the division head, 4 Senior Engineers and 8 Engineers. In-house support on the advisory service on E&M work and building submissions are provided.

3.2.2 External Monitoring & Verification Consultant

3.2.2.1 On the recommendation of Lloyd's, the HyD has employed an external consultant, Jacobs China Limited (the "M&V Consultant"), to provide monitoring and verification services in relation to the works undertaken by MTRCL for the delivery of the XRL project so as to provide assurance that MTRCL's obligations stated in the EA have been properly fulfilled. The monitoring and verification work of the M&V Consultant focus on cost, programme, safety and quality of the XRL project. In employing the M&V Consultant, HyD had required them to have no involvement with MTRCL or any Contractors engaged in the XRL project to avoid any conflict of interest.

3.2.2.2 On a risk-based sampling approach, the M&V Consultant's monitoring works include the review of major construction documents, carrying out site visits (joined by HyD staff) and attending meetings with HyD and MTRCL. The M&V Consultant also carries out verification audit on MTRCL's work to verify MTRCL's compliance with its obligations under the EA with Government.

3.2.2.3 Based on their monitoring and verification work through regular site visits to major XRL contracts and regular meetings with the site supervisory staff of MTRCL, the M&V Consultant would identify areas of concerns to the HyD and those concerns would be forwarded to MTRCL for their attention and actions. The M&V Consultant also submits monthly progress reports to HyD and has monthly meetings with HyD to report on their work and to advise the HyD of any potential risks regarding the implementation of the XRL project.

3.2.2.4 An extract of a monthly progress report submitted by the M&V Consultant is attached at **Annex 3.1**.

3.2.3 Contract Review Meeting

3.2.3.1 A Chief Engineer of RDO, with the attendance of the M&V Consultant, holds monthly Contract Review Meetings with the site supervisory staff of MTRCL for

major civil and E&M contracts. In the meetings, MTRCL reports on the progress of works for each of the major civil and E&M contracts. In case of delays encountered by the Contractors, MTRCL would report measures being considered to mitigate such delay. HyD and the M&V Consultant enquire and discuss the causes of delays and the effectiveness of mitigation measures with the corresponding MTRCL's site supervisory staff of the concerned contracts.

3.2.4 Project Coordination Meeting

3.2.4.1 An Assistant Director of HyD holds monthly Project Coordination Meeting with the senior staff of MTRCL (General Managers and Project Managers) of the XRL project to monitor the various activities concerning the delivery of the XRL project including, but not limited to, timely completion of land matters, resolution of third party requests, key issues on the design, construction, environmental matters that may have potential impact on the progress and programme of the XRL project, interfacing issues with other projects, etc. In addition to attendance at Project Coordination Meetings, MTRCL is also required to submit relevant detailed information to the HyD and, upon request, to arrange briefings for the HyD, the M&V Consultant and other Government departments on issues that may have bearing on the cost, quality or progress of the project.

3.2.5 Project Supervision Committee

3.2.5.1 The Director of Highways (DHy), being the controlling officer responsible for the XRL project, leads a high-level inter-departmental Project Supervision Committee (PSC). The Committee holds monthly meetings with MTRCL and relevant Government Departments to review project progress and project cost including monitoring of procurement activities, post tender award cost control and resolution of contractual claims. The PSC also provides steer on any matters that may affect the progress of the XRL project.

3.2.6 MTRCL Project Control Group

3.2.6.1 To support and complement the PSC's effort, the HyD inserts various check points into MTRCL's relevant work processes on cost control so that issues of potential concern can be flagged up and appropriately resolved at an early stage.

3.2.6.2 During MTRCL's contract procurement process, representatives of HyD attended the

tender readiness presentations by MTRCL and the meetings of the Procurement Team, Executive Tender Panel as well as MTRCL's Executive Committee. The Executive Committee is a meeting chaired by their Chief Executive Officer with the attendance of all their Directors. The committee will endorse the tender recommendation submitted by the Executive Tender Panel before submission to MTRCL Board for approval (for tender with tender sum exceeding 0.2% of the net asset value of MTRCL). For complicated and controversial tender, DHy will be invited to attend.

3.2.6.3 MTRCL convenes cost control meetings to review the financial situation of the constituent consultancies, construction contracts and the XRL project as a whole. HyD representatives attend these meetings. MTRCL has also set up a Project Control Group to scrutinize the assessment of variations and claims arising from the consultancies and contracts of the XRL project. HyD provides views on these proposals to the MTRCL through correspondence or attendance at Project Control Group meetings.

3.2.7 The Government has reported the above monitoring regime to the Legislative Council in April 2010 and July 2010 respectively (LC Paper no.CB(1)1573/09-10(04) and extract of the monitoring chart extracted from LC Paper no. CB(1)2290/09-10(01) at **Annex 3.2**).

4. MONITORING ACTIONS TAKEN

4.1 Outline of Monitoring Actions

4.1.1 Since commencement of works in January 2010, HyD has carried out monitoring work in line with the monitoring framework as described in Chapter 3 above. In general the following regular monitoring actions are carried out.

- The M&V Consultant carries out site visits, joined by HyD staff, and meets with MTRCL's site staff regularly and submits monthly reports to HyD.
- The M&V Consultant and HyD attend monthly Contract Review Meetings in which site staff of MTRCL of the major contracts report the progress of individual contracts and areas of concern.
- An Assistant Director of HyD co-chairs monthly Project Coordination meetings with the General Manager of MTRCL to monitor project progress among other project issues.
- DHy chairs monthly PSC meetings attended by the Projects Director of MTRCL and his team. Among other issues, progress is discussed on the basis of Monthly Progress Reports submitted by MTRCL and other available information. When delay is noted, MTRCL is asked to explain the causes of delay and the intended mitigation or delay recovery measures.
- HyD attends monthly cost control meetings convened by MTRCL, and provides comments on MTRCL's assessment of variations, claims and other cost changes.

4.2 Progress Delay and Delay Recovery Measures

4.2.1 Similar to other major civil works contracts involving underground works in built up urban areas, the XRL project experienced progress delays at various fronts whereby the progress of works at a certain moment of time lags behind the programmed level of production due to various project risks. Projects risks could either be the responsibility of the Contractors or the Employer. For example, rectification of defective works of the Contractors is the responsibility of the Contractors. Whereas delay caused by design changes initiated by the Employer is the responsibility of the Employer.

4.2.2 The existence of progress delays under individual contracts does not necessarily imply that completion of the Project would be delayed. The overall progress is also an important consideration. From the experience in other major works contracts, a contractor could adopt mitigation and recovery measures to catch up progress delays.

The increase in manpower, plant and working overtime is of course one of the possible measures. The important thing is to avoid affecting the commencement of subsequent critical work activities. Though splitting of work processes into parts and re-sequencing of work flow, delayed activities could be moved away from the critical path. An example is the delayed completion of an excavation process. If the completion sequence of the different parts of the excavation process could be arranged such that the subsequent work process, e.g. construction of station structure, could commence timely within the area already excavated, the process delay could be mitigated and will not affect the completion of the XRL project.

4.2.3 Since commencement of works in 2010, various issues have been reported by the M&V Consultant and MTRCL which had resulted in progress delays compared with the AMP. As in other major projects, the Contractors and MTRCL have devised mitigation measures and delay recovery measures (DRMs) which have the effect of recovering or offsetting partly or wholly such progress delays. As at early April 2014, there are still residual progress delays in various fronts because the mitigation measures or DRMs may not be able to recover or offset wholly the effect of past aggregate progress delays, or because new issues or events have popped up. MTRCL was working with the Contractors to develop further mitigation measures or DRMs to address the residual progress delays, while HyD has repeatedly pressed MTRCL to demonstrate with detailed work plan how the residual progress delay could be finally mitigated.

4.2.4 Typical mitigation measures or DRMs include

- Deployment of additional plant and labour resources;
- Adoption of alternative works procedures or working method, e.g. using blasting instead of mechanical breaking of rock;
- Design changes and re-sequencing of works activities;
- Redefining the programme completion date of non-critical contracts, i.e., a contract with float time associated with its original target completion date and therefore not directly affecting the completion programme of the whole project; and
- Refinement of the programme of subsequent E&M works, sometimes through phased access arrangements.

4.2.5 In their monthly reports, the M&V Consultant reported both the aggregate progress delays against the AMP and also the residual progress delays taking into account revised target programmes. For example for Contract 810A (as at end of February

2014) :

- **Progress delays against AMP** – 77 weeks
  This is the aggregate effect of all delay events or issues so far, measured against the AMP, which has not taken into account the mitigation measures and DRMs implemented by MTRCL.
- **Progress delays against revised target programme** – 16 weeks
  This is the residual progress delay, measured against the revised target programme after taking into account the mitigation measures and DRMs implemented by MTRCL. The revised target programme reflects redefined target completion dates for certain critical activities after re-sequencing of work flow. For example, the splitting of a station area into parts and arranging them to be handed over earlier to the subsequent E&M Contractor would allow more time for the construction of the later parts, thus mitigating the effect on the subsequent activities. MTRCL is working with the Contractor to develop further mitigation measures and DRMs.

4.2.6 In the following sections, the progress status in April 2013 and October 2013 are described. They were the progress situation at the time when we reported to the Subcommittee on Matters Relating to Railways under the Legislative Council Panel on Transport (RSC) in May 2013 and November 2013 respectively. Our detailed monitoring actions and MTRCL's responses during the last six months are also described.

4.3 Progress Status in April 2013

4.3.1 In the Monthly Progress Report for end April 2013, MTRCL reported an overall progress delay of about 7 months against the AMP, and that they were working with the Contractors on required mitigation measures and DRMs. The M&V Consultant also reported an overall progress delay of about 7 months against the AMP, and about 5 months delay against the revised target programme, and highlighted the delay in four contracts, in particular the WKT fronts.

4.3.2 Despite the progress delay, MTRCL maintained the target of completion within 2015 as recorded in the programme in the Monthly Progress Report submitted by MTRCL and in minutes of the relevant PSC Meeting in which MTRCL advised that they expected the progress would be greatly improved as substantial tunnelling works would be completed in the coming months.

4.3.3 The four Contracts highlighted by the M&V Consultant include the two WKT Contracts 810A and 810B, the northern most tunnel section Contract 826, and another tunnel section Contract 820. This somehow agreed with our views all along that Contract 826 at the northern end and the WKT Contracts at the southern end were most risky. The following sections described the progress situation of these four Contracts then.

4.3.4 For Contract 810A, there was then a residual progress delay of about 7 weeks against the revised target programme. We noted that some mitigation measures were taking shape including installation of additional bored piles at the northern top down area and installation of travelling form concrete shutters for core B3 level slab construction. There were signs of efforts in formulating the mitigation measures and DRMs by additional resources and re-sequencing of works.

4.3.5 For Contract 810B, there was then a residual progress delay of about 1 week against the revised target programme. We noted that similarly some mitigation measures were taking shape and concrete production had further improved. Also access to two more areas had been allowed to the E&M Contractors under re-sequencing arrangements. The residual progress delay of one week was slight.

4.3.6 For Contract 826, there was progress delay of about 5 months against the AMP while MTRCL was working out with the Contractor on a revised target programme. The main issue was the delayed arrival of the two TBMs from Huanggang of Shenzhen (please refer to section 5.3.4 for details). As at end April 2013, the two TBMs from Huanggang were anticipated to arrive at the HK boundary by end October and November 2013 respectively. If the works programme was simply shifted forward by the same length of time as the delayed period of the arrival of the TBM, the completion of this Contract would be pushed far beyond the original target date. But there were room for MTRCL to recover the progress delay as historically the two TBMs could achieve a higher excavation rate during their drives in the Mainland section, compared with the assumed excavation rate in the original programme. Also MTRCL could re-sequence subsequent trackwork and E&M works to cope.

4.3.7 For Contract 820, there was then progress delay of about 24 weeks against the AMP while MTRCL was working out with the Contractor on a revised target programme. We noted that the progress delay was due to the encountering of unforeseen abandoned steel piles in front of the TBM in January 2013. Workshops had been held between MTRCL and the Contractor to work on feasible options to remove these

unforeseen obstructions. In March 2013, the Contractor had developed a workable scheme to remove these obstructions and thereafter, they were successful in removing several piles in April 2013. MTRCL had also discussed with the Contractor on re-sequencing the subsequent works to allow early access for the trackwork and E&M works in the downtrack tunnel.

4.3.8 In view of the dedication shown by MTRCL to adhere to the completion target, the active work they were doing in developing mitigation measures and DRMs with the Contractors, and the availability of areas for improvement, and taking into account the then progress situation of the key contracts, from our professional judgement and own experience in implementing major works contracts, we could not rule out the possibility for MTRCL to achieve the target.

4.4 Progress Status in October 2013

4.4.1 In the Monthly Progress Report for end October 2013, MTRCL reported an overall progress delay of about 9 months for the WKT fronts, and 12 months for the Contract 826 tunnel from Mai Po to the boundary, against the AMP. The M&V Consultant also reported an overall progress delay of 9 months against the AMP, and more specifically a delay of about 3 months for WKT works against the revised target programme. The M&V Consultants highlighted the progress delays in seven contracts, namely the WKT Contracts 810A, 810B, 811B and the tunnel Contracts 820, 822, 824 and 826.

4.4.2 We noted at the time that despite the progress delay, MTRCL maintained the target of completion by 2015 as recorded in the minutes of the Project Coordination meeting held on 15 October 2013 and the programme in the Monthly Progress Report submitted by MTRCL for end October 2013. It was noted that MTRCL was pursuing with the Contractors for further mitigation measures and DRMs. In particular as recorded in the minutes of the PSC meeting dated 29 October 2013, MTRCL advised that there were challenges at different work fronts, with the biggest at WKT, and that they were working hard to catch up the progress with a view to meeting the proposed target opening scenario.

4.4.3 We noted that the WKT Contracts and the northern most tunnel Contract 826 were still in the M&V Consultant's highlight list, while four more Contracts were added compared with the list in April 2013. The following sections described the progress situation of these seven Contracts then.

4.4.4 For Contract 810A, there was then a residual progress delay of about 10 weeks against the revised target programme. The M&V Consultants reported that the works progress had been affected by inadequacy of workfront and logistics and site co-ordination. Lately, there had been improvements in the excavation and the erection of temporary steelwork. MTRCL was working with the Contractors to resolve the resources, logistics and site co-ordination problems with the aim to achieving a desired production rate, such as exploring the use of explosive. If MTRCL could resolve the workfront and coordination issue, production rate will be increased as experienced in Contract 810B. In the October 2013 PSC meeting (29 October 2013), MTRCL was asked to provide a roadmap for monitoring against actual progress. HyD considered that an objective measure was required to allow the Department to assess whether MTRCL's completion target was reasonable.

4.4.5 For Contract 810B, there was then a residual progress delay of about 6 weeks against the revised target programme. Similar to Contract 810A, there had been resources and site-co-ordination problems but lately concrete production had improved significantly under mitigation measures implemented with more workfronts opened up for the E&M Contractors. Concreting work had reached about 50% and was quite advanced.

4.4.6 For Contract 826, there was progress delay of about 12 months against the AMP while MTRCL was working out with the Contractor on a revised target programme. The expected arrival of the two TBMs from Huanggang had further slipped. At end October 2013, the expected arrival date of the two TBMs at the HK boundary was end November 2013 and February 2014 respectively. The length of the two tunnel drives was not long, being 1.5 km each. We considered that if the two TBMs could achieve reasonable excavation rates which could be expected from a similar slurry type of TBM (e.g., one deployed under Contract 820), the two TBMs could be able to complete their drives in early 2015. The downtrack tunnel would be completed three months ahead of the uptrack. At the same time MTRCL had started to plan for mitigation measures by re-sequencing of track work and E&M works subsequent to first breakthrough of the tunnels.

4.4.7 The other Contracts were not as critical as the WKT Contracts nor Contract 826. For Contract 811B, excavation and concreting works were quite advanced and there was room to put in more work fronts. For Contract 820, the obstruction affecting the TBM driving work had been removed and the first drive had been completed in

September. For Contract 822 and 824, MTRCL was working with the Contractors to deploy more resources and plants, and to arrange re-sequencing of subsequent work to mitigate the delay caused by the unfavourable ground conditions encountered at the fault zones.

4.4.8 Separately, MTRCL had approached HyD in August and September 2013 to explore a partial opening scenario whereby essential parts of the works would be completed towards the end of 2015 whereas testing and commissioning would start following the completion of various sections of tunnels with the aim of allowing partial operation (just to meet early year demand) by the end of 2015. Under the partial opening scenario, six out of the 15 tracks and the essential railway facilities would be ready to provide passenger service. As there was inadequate information on the feasibility of the partial opening scenario, HyD, without indicating agreement to the proposal, requested MTRCL to provide further information such that a report could be made to THB. While this scenario remained an option to be further developed by MTRCL, we have cautioned MTRCL that more thoughts should be given to the minimum infrastructure provisions that are necessary for the railway passengers gaining access to or exit from the WKT.

4.4.9 The Senior Management of Government and MTRCL then met on 21 November 2013 at which MTRCL confirmed that they were endeavouring to catch up the delay in the various key contracts to enable the commissioning of the XRL by the end of 2015. MTRCL advised that they would consider single track operations for the initial period, allowing more time for construction of the second tunnel. THB did not give any agreement to this proposal. Based on the progress situation mentioned in sections 4.4.4 - 4.4.7 above and the assurance from MTRCL's Senior Management, we were of the opinion with the concerted efforts of MTRCL and their Contractors, the target of completing the XRL in 2015 was very challenging but could not be ruled out.

4.4.10 The following was reported at the RSC meeting on 22 November 2013:

"政府當局表示，高鐵香港段的建造工程預計如期在2015年完成。之後，預計港鐵公司需時數個月，就高鐵香港段進行多項測試和試運行，檢驗鐵路營運狀況，並經相關政府部門如機電工程署批准後，才可通車。"

"除了跨境段外，高鐵餘下的香港段部分建造工程亦落後於時間表，政府當局因而採取了不同措施，務求追上工程時間表。"

"根據經驗，一般需時6至9個月進行各項測試及試行，以確保鐵路服務安全和可靠。" (extract of Notes of RSC meeting at **Annex 4.1**)

4.5 Monitoring Actions during the Last Six Months

4.5.1 Since October 2013, further progress delays at individual contracts were noted, in particular the north WKT Contract 810A, the tunnel Contract 823A and Contract 826. In the Monthly Progress Report submitted by MTRCL for end February 2014, MTRCL reported that the tunnel section from Mai Po to Hoi Ting Road, mainly due to the slow progress of the tunnel excavation works under Contract 823A, was delayed by about 11 months. Mitigation measures and DRMs were being developed by MTRCL to catch up the progress delay.

4.5.2 The M&V Consultant also reported worsening progress delays during this period, and that MTRCL was working with the Contractors on further mitigation measures and DRMs with the aim to catching up the progress delays. These measures focussed on increase of more work fronts and resources, addressing site co-ordination problems which were the main issues in WKT contracts.

4.5.3 In the same report, the M&V Consultant also advised that:
"We are satisfied that, to date, MTRCL is taking due cognizance of its obligations in relation to safety, quality, environmental, programme and cost management… This target is looking very challenging given the accruing delays in Contracts 823A and 824 and we await sight of MTRCL's updated programme situation, now expected in May 2014."

4.5.4 HyD expressed concerns on the progress delay in various PSC meetings. In response, MTRCL presented a roadmap in the PSC meeting of 29 November 2013, towards the proposed target opening scenario, which set down the target dates for completion of civil works and E&M works by June 2015 for testing and commissioning. The Chairman was not satisfied with the Roadmap and MTRCL agreed that they would arrange another briefing to provide more details on the proposed XRL opening arrangement, including the readiness of WKT external works and public areas." HyD considered that a detailed work plan was an objective measure and was a must to allow the Department to assess whether MTRCL's stated targets were reasonable taking into account the complexity of the construction work flow and its implications on the required increase in workfronts to catch up progress delays.

4.5.5 Subsequently in both the January 2014 PSC meeting (24 January 2014) and the February 2014 PSC meeting (28 February 2014), the Chairman expressed his

continued concerns on the significant programme slippage. MTRCL advised in the January 2014 PSC meeting that they would review the overall situation and present to HyD in April 2014 the latest forecast opening arrangement and commissioning timeframe. In the February 2014 PSC meeting, MTRCL advised that they had been working closely with the Contractors on measures to catch up with the construction programme.

4.5.6 The programme concerns were also discussed in the monthly Coordination meeting. At the Coordination meeting no.122 held on 18 March 2014, MTRCL maintained that "the project is targeted for completion in year 2015" (extract at **Annex 4.2**).

4.5.7 In the PSC meeting held on 2 April 2014, HyD raised continued concerns on the significant programme slippage and asked MTRCL if the target completion of works in 2015 was still achievable. In response to HyD, MTRCL advised that they were reviewing the overall picture of the project delivery and scheduled to give a presentation to HyD on 7 May 2014 on the forecast project commissioning scenario.

4.5.8 In the same PSC meeting MTRCL also reported the flooding incident occurred at Contract 823A on 30 March 2014. MTRCL advised that a minor slope failure at the bank of a drainage channel at Shek Kong had caused flooding of the lower end of the tunnel under Contract 823A including the north drive TBM. MTRCL reported that the Contractor was assessing the damage to the TBM, and HyD requested MTRCL to report the detailed findings of the incident and their assessment on the associated cost and programme impacts when available.

4.5.9 While we were waiting for a detailed work plan from MTRCL on the XRL opening arrangement, MTRCL informed STH on 12 April 2014 that the completion of the XRL project would suffer substantial delay.

4.6 Project Cost Status at end February 2014

4.6.1 The Approved Project Estimates for the construction of XRL project were approved by the Finance Committee in January 2010, with a total of $66.8 billion ($55.0 billion for railway works and $11.8 billion for non-railway works). Since entrustment of the XRL project to MTRCL, 40 major contracts have already been awarded. Together with other minor contracts, the total awarded contract value is about $45 billion.

4.6.2 Regular project cost monitoring is mainly carried out at two fronts. Firstly, MTRCL

submits cost report of the XRL project at a monthly basis, which includes information on the latest estimated cost of works and the project contingency. This cost information is also included in the monthly progress report submitted and presented in the PSC meetings. Secondly, for monitoring the cost changes in the works contracts, MTRCL submits its assessment of variations and claims to HyD for comments before its internal discussion at the Project Control Group meetings, which is MTRCL's internal committee to scrutinize and approve the cost change proposals. HyD provides views on these proposals to the MTRCL through correspondence or attendance of the Project Control Group meetings.

4.6.3 The M&V Consultant also monitors the financial situation of the project as a part of its M&V works. They review the monthly cost reports submitted by MTRCL, keep track of the project contingency balance and monitor the overall project expenditure. For proposed cost changes, the Consultant review MTRCL assessment of variations and claims and provide their comments.

4.6.4 A contingency sum of $5.4 billion (2009 price) has been allowed in the original project estimate. We have been closely monitoring the level of contingency against the approved budget. As at end March 2014, the contingency sum of the entrusted works is about $3.7 billion. Based on MTRCL assessment, the latest estimate cost of the claims submitted by the Contractors was less than the contingency level of $3.7 billion of the entrusted works. In view of the above, it was MTRCL's assessment in early April 2014 that the estimated Final Project Cost will be within the Approved Budget.

4.6.5 Upon receipt from MTRCL the updated programme and cost assessment, we would be able to provide our assessment on the financial position of the project.

5. REVIEW OF CURRENT PROGRESS OF CIVIL WORKS CONTRACTS REQUIRING ATTENTION

5.1 General

5.1.1 Since commencement of works in 2010, MTRCL had reported and the M&V Consultant had noted various issues affecting the progress of individual contracts. The M&V Consultant also noted that mitigation measures and DRMs were implemented by MTRCL to address partly or fully the effect of these incidents. As at to date, delays are still recorded against various contracts in respect of their revised target programmes, while MTRCL is still considering further mitigation measures and DRMs. It follows that final completion of the XRL project would likely be delayed if MTRCL could not develop effective mitigation measures and DRMs to absorb the current delay. On the other hand, the current delay could well be offset if effective mitigation measures and DRMs could be implemented by MTRCL. In the following sections, we have listed out those reported events or issues which have affected progress and those reported mitigation measures or DRMs. We will focus on seven civil works contracts highlighted by the M&V Consultant in their February 2014 Report showing noticeable progress delay or risk that may affect subsequent trackwork and E&M works. Current progress is also discussed under individual contracts.

5.1.2. The seven civil works contracts highlighted by the M&V Consultant in their February 2014 Report can be grouped into two categories. The first group which comprises extensive open excavation works for the construction of the WKT and its Approach Tunnels, namely Contracts 810A, 810B and 811B. The second group involves excavation works for tunnel construction, namely Contracts 820, 823A, 824 and 826.

5.2 West Kowloon Terminus and the Approach Tunnels

5.2.1 Contract 810A – West Kowloon Terminus Station North

5.2.1.1 Scope of works

This contract mainly involves the construction of the northern portion of the WKT station structure and the associated Essential Public Infrastructure Works (EPIW), and includes the following major items:

(a) Excavation for northern portion of WKT;

(b) Construction of the underground WKT station structures (northern portion) with

4 basement levels B1 to B4 (lowest at B4 level for train platform), each approximately 400 m in length;

(c) Entrance roof structure;

(d) Lin Cheung Road Underpass and associated peripheral road infrastructure; and

(e) Five footbridges and two subways connecting the Austin Station to the east and Kowloon Station Development to the west.

The overall view of the Contract 810A site is shown at **Annex 5.1** and the road network around Contract 810A Site is shown at **Annex 5.2**.

5.2.1.2 Current progress

(a) Excavation

The excavation has reached Level B4 at some locations and the total excavation work is approximately 65% complete. For the centre core structure, the construction sequence is to excavate from ground level to B4 level and to start the concreting works bottom up. While at the northern part of the 810A adjoining 811B and peripherals near Lin Cheung Road at the west and Wui Man Road at the east, the construction sequence is from top down, i.e. excavation is to start from B1 level and after concreting the B1 slab, further excavation and subsequent concreting down to B4.

(b) Construction of station box

The concreting works is approximately 20% complete. The M&V Consultant conducts site visit, joined by HyD staff, to monitor site progress. Based on the report by the M&V Consultant, concreting to B4 level commenced in September 2012. Extract of the M&V Consultant's report is at **Annex 5.3**. Since January 2014, the volume of concrete cast has increased with more workfronts becoming available.

(c) Construction of steel roof truss and mega column

Steel mega columns and roof trusses units are being fabricated at the fabrication yards in Thailand and Mainland respectively. Erection of column units has started but progress is slow.

5.2.1.3 Problems which have affected progress and mitigation measures taken

The following events or issues affecting the progress of works have been reported causing construction activities to lag behind the AMP. Up to February 2014, the aggregate effect is a progress delay of about 77 weeks compared with the AMP, or about 16 weeks against the revised target programme with mitigation measures or DRMs implemented. The following sections describe these events or issues, and the mitigation measures and DRMs implemented.

5.2.1.4 Events or issues:

(a) Resolved - Impact on concreting rate due to failure of mechanical couplers in test samples

Failure of mechanical couplers in some samples was reported in July 2013. Concreting operation involving mechanical couplers was suspended. At the request of Buildings Department, MTRCL carried out an investigation and adopted an enhanced sampling process. Further testing had demonstrated specification compliance. Concreting operation resumed in October 2013.

(b) On-going – Delay in site handovers (Jordan Road) due to unfavourable ground conditions in other adjoining contracts

Due to unfavourable conditions for diaphragm wall construction under Contract 811B, the planned Jordan Road diversion required an additional phase which falls within the Contract 810A site. The final road diversion away from the site was delayed by about two months. This has led to consequential delay in the subsequent site activities.

(c) On-going - Delay in site handovers from adjoining contract

Due to adoption of different methods of excavation under Contract 810A and 810B, the excavation rate for the central core under Contract 810A had been hindered, resulting in delay of about 4 months.

(d) On-going - Slow progress for construction of lateral support for deep excavation

The southern portion of the Contract 810A site should be constructed with the central core of the station structure using bottom up method (concreting process) while those on the east and west sides should be adopting top down method, after the lateral support to the diaphragm wall by the permanent B1 slab having been extended from the central core. Owing to the site co-ordination problems, the permanent B1 slab was slow in construction forbidding the excavation near the diaphragm resulting in progress delay.

(e) On-going – Low excavation rate due to high rock head

The concerned high rock head profile is in the northern part of Contract 810A site and has been identified before the award of tender. The construction method is also top town (concreting process). Owing to the previous delay experienced in the tackling of utilities in the Jordan Road, the top down construction of the B2 and B3 slab is still underway. The rock excavation at approximately the B3/B4 level has yet to start in some part of the site. The existence of the high rock head has posed a difficulty for the Contractor to mitigate the previous delay experienced.

(f) On-going - Slow progress of steel roof truss fabrication and installation

The installation of the lower part of the first mega column was completed in February 2014 but the progress was slow.

5.2.1.5 Mitigation measures and DRMs implemented by MTRCL:

(a) Adopting alternative pile support system at the northern end to allow early construction of the floor slabs at B2 and B3 levels to facilitate the critical E&M installation works;

(b) Revision of construction method and sequence to facilitate early construction of the steel roof structure above the atrium;

(c) Deployment of additional resources for the fabrication yards of the steel roof truss; and

(d) Identification of alternative cable routes and critical plant rooms so that works can be prioritized, re-sequenced and coordinated with the E&M and Trackwork Contractors to mitigate access delays.

5.2.1.6 Further mitigation measures being developed by MTRCL at end of February 2014:

(a) Deployment of more resources, increase in workfronts and improvement of site access logistics for critical areas;

(b) Prioritization, re-sequencing and coordination with the E&M and Trackwork Contractors to mitigate access delays;

(c) Improvement of excavation in high rock head by blasting as an alternative method in conjunction with mechanical breaking; and

(d) Improvement of Temporary Traffic Management Schemes (TTMS) to expedite construction of Lin Cheung Road Underpass.

5.2.2 Contract 810B – West Kowloon Terminus Station South

5.2.2.1 Scope of works

This contract mainly involves the construction of the southern portion of WKT station structure and the associated EPIW, and includes the following major items:

(a) Excavation for southern portion of WKT;

(b) Construction of the underground WKT structures (southern portion), with basement levels B1 to B4 (lowest at B4 level for train platform), each approximately 300 m in length; and

(c) Austin Road West Underpass and associated road infrastructure work.

5.2.2.2 Current progress

(a) <u>Excavation</u>

The excavation has reached level B4 in most locations with approximately 95% of the total volume complete. The remaining excavation mainly involves removal of rock encountered in the south-eastern corner. The Contractor is preparing to increase more workfronts and plant to increase rock excavation rate.

(b) Construction of station box

The concreting works was approximately 60% complete. Except B4 level, B1 to B3 slabs have been mostly completed. Internal wall construction continues in the critical areas to allow early access by Building Service and E&M Contractors.

(c) Austin Road West Underpass

Excavation and construction of lateral support for the Austin Road Underpass is in progress, which is partly integrated with the WKT station structure.

(d) Interface with E&M works

Access or partial access has been provided to E&M contactors and building services installation is progressing under Contracts 816A, 816B, 816C and 816D in the southern portion of WKT in levels B2 and B3.

5.2.2.3 Problems which have affected progress and mitigation measures taken

The following events or issues affecting the progress of works have been reported causing construction activities to lag behind the AMP. Up to February 2014, the aggregate effect is a progress delay of about 93 weeks compared with the AMP, or about 9 weeks against the revised target programme with mitigation measures or DRMs implemented. The following sections describe these events or issues, and the mitigation measures and DRMs implemented.

5.2.2.4 Events or issues:

(a) Resolved - Late possession of works sites due to occupation by previous foundation Contractors;

(b) Resolved - Low excavation rate due to limited barging facilities for spoil disposal;

(c) Resolved – Excavation works suspended pending the construction of planned lateral support system within the adjoining contract; and

(d) Resolved – Impact on concreting rate due to failure of mechanical couplers in test samples.

5.2.2.5 Mitigation measures and DRMs implemented by MTRCL:

(a) Deployment of additional plant resources; and

(b) Re-sequencing excavation with early excavation of some critical area for construction of B3 slab to allow early E&M installation.

5.2.2.6 Further mitigation measures being developed by MTRCL at end of February 2014:

(a) Identification of critical areas of internal wall construction to allow early access by Building Service and E&M Contractors;

(b) Deployment of more resources and increase of workfronts for critical areas; and

(c) Improvement of TTMS to expedite the construction of Austin Road West Underpass.

5.2.3 Contract 811B – West Kowloon Terminus Approach Tunnel (South)

5.2.3.1 Scope of works

The Works involves the construction of an approximately 450 m section of the approach tunnels to WKT and include the following major items:

(a) Tunnel box and station box structures;

(b) Part of Lin Cheung Road Underpass structures;

(c) Temporary and future permanent footbridges; and

(d) West Kowloon Plant Building (WKP), Public Transport Interchange (PTI) and landscape deck.

5.2.3.2 Current progress

(a) Excavation

The excavation works of the approach tunnel is approximately 55% complete.

(b) Construction of tunnel structure

The tunnel box is constructed using top-down method at the southern end of the site adjacent to Contract 810A. Tunnel top slab construction on south side of Jordan Road is substantially complete except for one small bay in south-eastern corner.

(c) Construction of WKP, PTI and footbridge

The construction of WKP will start after Jordan Road reinstatement to be completed by end 2014.

5.2.3.3 Problems which have affected progress and mitigation measures taken

The following events or issues affecting the progress of works have been reported causing construction activities to lag behind the AMP. Up to February 2014, the aggregate effect is a progress delay of 90 weeks compared with the AMP, or 22

weeks against the revised target programme with mitigation measures or DRMs implemented. MTRCL is working with the Contractor on further mitigation measures and DRMs. The following sections describe these events or issues, and the mitigation measures and DRMs implemented.

5.2.3.4 Events or issues:

(a) Resolved - Late possession of some of the works sites due to occupation by previous foundation Contractors;
(b) Resolved - Slow progress in construction of diaphragm wall due to unfavourable ground conditions; and
(c) On-going – Slow progress of works due to utility diversion for reinstatement of Jordan Road.

5.2.3.5 Mitigation measures and DRMs implemented by MTRCL:

(a) Increase of resources to remove corestones and artificial obstructions; and
(b) Rearrangement of TTMS to reduce delay to site access for the carrying out of foundation work.

5.2.3.6 Further mitigation measures being developed by MTRCL at end of February 2014:

(a) Deployment of more resources and increase of workfronts for critical areas;
(b) Deployment of additional resources in bulk excavation of corestones; and
(c) Rearrangement of TTMS for construction of PTI.

5.3 Tunnel Sections

5.3.1 Contract 820 – Hoi Ting Road to Mei Lai Road Tunnels

5.3.1.1 Scope of works

The scope of Contract 820 mainly involves the construction of:

(a) Two TBM bored tunnels each of length about 3.7 km between Hoi Ting Road and Mei Lai Road (involving a total of four sections, namely southbound downtrack, northbound downtrack and southbound uptrack and northbound uptrack); and

(b) The Nam Cheong Ventilation Building.

5.3.1.2 Current progress

Tunnel	**Current progress** (as at mid-April 2014)
Northbound (downtrack)	Tunnel broke through in July 2012
Northbound (uptrack)	Tunnel broke through in July 2013
Southbound (downtrack)	Tunnel broke through in Sept 2013
Southbound (uptrack)	14% of the tunnel section had been constructed

The Nam Cheong Ventilation Building is about 90% complete.

5.3.1.3 Problems which have affected progress and mitigation measures taken

The following events or issues affecting the progress of works have been reported causing construction activities to lag behind the AMP. Up to February 2014, the aggregate effect is a progress delay of about 42 weeks as compared with the AMP, while MTRCL is working with the Contractor on a revised target programme. We noted that appropriate mitigation measures have been implemented so that the civil works could be completed according to the revised target for subsequent handing over to trackwork and E&M works, we have pressed MTRCL to agree with the Contractor a revised target programme as soon as possible. The following sections describe these events or issues, and the mitigation measures and DRMs implemented.

5.3.1.4 Events or issues:

(a) Resolved – Suspension of TBM drive due to the encountering of abandoned temporary piles in Hoi Wang Road in January 2013. The TBM resumed boring in August 2013 and the tunnel section was completed in September 2013.

(b) Resolved – Suspension of TBM drive due to encountering of steel obstructions

in January and March 2014. The TBM resumed boring in end March 2014.

5.3.1.4 Mitigation measures and DRMs implemented by MTRCL:

Mitigation measures have been implemented to catch up the progress delay. One of these measures comprised the deployment of additional resources for the construction of the remaining civil work within the downtrack tunnel, such as invert slab construction, so that trackwork and E&M Contractors could start their work in the downtrack tunnel as soon as practicable.

5.3.2 Contract 823A - Tse Uk Tsuen to Tai Kong Po Tunnels

5.3.2.1 Scope of works

The scope of Contract 823A mainly involves the construction of:

(a) Four sections of TBM bored tunnels (two at Tsat Sing Kong each of length about 880 m and two at Shek Kong each of length about 430 m).

(b) Twin cut-and-covered tunnel of length about 330 m.

5.3.2.2 Current progress

As at mid-April 2014, the progress of the tunnel construction under Contract 823A is as below:

Tunnel	**Current progress** (as at mid-April 2014)
North section (downtrack)	about 93% of the tunnel section has been excavated but TBM drive suspended
North section (uptrack)	tunnel excavation not yet commence
South section (downtrack)	about 92% of the tunnel section has been excavated
South section (uptrack)	tunnel excavation not yet commence

Mining operation for the north downtrack tunnel is suspended in view of the damaged North TBM due to the flooding on 30 March 2014pending rescue of the TBM. The South TBM at Shek Kong for the downtrack drive is anticipated to breakthrough in May 2014. Upon breakthrough, the pre-flooding intention was for the two TBMs to be dismantled with the components transported back to their respective launching shafts for re-assembly before the second launch for the uptrack tunnels excavation. The flooding event on 30 March 2014 has now cast doubt on this strategy and MTRCL's advice as to how it plans to proceed is awaited. HyD is still awaiting further mitigation measures and DRM proposals from MTRCL to mitigate the progress delay.

5.3.2.3 Problems which have affected progress and mitigation measures taken

The following events or issues affecting the progress of works have been reported causing construction activities to lag behind the AMP. Up to February 2014, the aggregate effect is a progress delay of about 53 weeks compared with the AMP, while MTRCL is working with the Contractor on a revised target programme. We noted that mitigation measures had been formulated and implemented in stages to catch up the progress delay which include improvement of the TBM performance and re-sequencing of the track and E&M works, we have pressed MTRCL to agree with the Contractor a revised target programme as soon as possible. The following sections describe these events or issues, and the mitigation measures and DRMs implemented.

5.3.2.4 Events or issues:

(a) Resolved – Unfavourable ground conditions

Under the original contract provision, the bored tunnels were to be excavated by a single TBM (i.e. the North TBM). The construction of the North TBM launching shaft at Tsat Sing Kong has been affected due to the presence of high rock head, which would have a knock-on effect on the commencement of tunnel construction if not mitigated.

(b) On-going – Low excavation rate in rock and long down time of TBM

The excavation rate of the two TBMs has generally been very low and unsatisfactory through the rock zone. There were also frequent down time for routine and emergency maintenance/repairs of the TBM as well as precautionary grouting works necessary for the TBM operation.

(c) On-going – Flooding within the TBM tunnel on 30 March 2014

The North TBM was submerged in flood water under the severe black rainstorm at night on 30 March 2014 during its downtrack drive. As reported by MTRCL, the cause of the flooding is due to collapse of a slope within the Contract 823B Shek Kong site that has led to blockage of the inlet of the temporary drainage channel resulting in water overflowing into the ERS tunnel and finally the excavated North TBM tunnel under Contract 823A was flooded. The situation of the flooding was worsened by the mal-functioning of the emergency pumps at the TBM shaft. Although no injury was reported due to the incident, the mining operation of the North Tunnel was halted due to the incident and the target date of resumption of the TBM operation is being assessed by MTRCL depending on the method for rescue of the TBM. A diagram showing the location of the failed slope and the flood water path is included as **Annex 5.4**. Photos taken by HyD during the site visit showing the watermarks left behind within the flooded tunnels are attached at **Annex 5.5**.

Subsequent to the flooding incident, MTRCL reported to HyD about the damage of the TBM on 31 March 2014. HyD requested MTRCL to provide update and assessment of the incident via email on 1 April 2014 and during the PSC meeting on 2 April respectively. HyD and the M&V Consultant also visited the sites on 2 April 2014 to acquire first hand information about the incident.

The Contractor completed urgent dewatering of the flooded tunnels on 9 April 2014. We are still waiting for an incident report from MTRCL on the detailed findings of the tunnel flooding, TBM damage, the associated cost and programme impacts, and delay recovery plan on Contract 823A as well as the XRL Project.

5.3.2.5 Mitigation measures and DRMs implemented by MTRCL:

(a) A series of mitigation measures were agreed with the Contractor in early 2013 which included, among other measures, the procurement of a second TBM (i.e. the South TBM) for reducing the overall tunnel construction time. The agreed implemented mitigation measures had the overall effect of reducing the then progress delay by about 10 months.

(b) To improve the performance of the two TBMs within the mixed and full face rock region, a series of measures have been identified jointly by MTRCL and the Contractor, including:

(i) Employment of a TBM expert by the Contractor to conduct a performance review of the TBM operation. The review was carried out in September 2013 with suggestions given for improvement.

(ii) Fabricating a new cutter head with improved components for the North TBM uptrack drive.

(iii) Adjustment of the face pressures of the TBM during mining and maintenance to minimise the heat generated during excavation and reduce the down time during interventions.

(iv) Installation of cooling devices to reduce the heat generated during mining of hard materials.

(c) To re-sequence the construction works at the receiving shaft of the North TBM to mitigate the effects due to late arrival of the TBM.

(d) To step up precautionary measures to protect the site against flooding.

5.3.2.6 Further mitigation measures being developed by MTRCL at end of February 2014:

(a) Formulation of a recovery plan for the damaged North TBM and the remaining north downtrack and the strategy of deploying the two TBMs for completing the remaining tunnel excavation works.

5.3.3 Contract 824 - Tai Kong Po to Ngau Tam Mei Tunnels

5.3.3.1 Scope of works

The scope of Contract 824 mainly involves the construction of:

(a) Two tunnels each of length about 2.6 km excavated by Drill-and-blast method
(b) The Ngau Tam Mei Ventilation Building (NTM VB)
(c) The Emergency Access Point (EAP) at Tai Kong Po (TKP)

5.3.3.2 Current progress

As at mid-April 2014, about 70% of the tunnel and the cross passages excavation as well as 20% of the tunnel lining have been completed. The construction of the NTM VB has commenced and is actively underway. According to the current rate of progress, tunnel breakthrough is likely to be achieved by end 2014.

5.3.3.3 Problems which have affected progress and mitigation measures taken

The following events or issues affecting the progress of works have been reported causing construction activities to lag behind the AMP. Up to February 2014, the aggregate effect is a progress delay of about 94 weeks compared with the AMP, or 10 weeks against the revised target programme with mitigation measures or DRMs implemented. The following sections describe these events or issues, and the mitigation measures and DRMs implemented.

5.3.3.4 Events or issues:

(a) <u>On-going - Unfavourable geological conditions</u>

During the early stage of construction, delay was encountered mainly due to unfavourable ground conditions with significant water seepage into the Drill-and-blast tunnel and shaft excavation faces. In this respect, the Contractor carried out extensive fan grouting to the shaft and the tunnel prior to and after the excavation. Furthermore, boulders and fault zones were encountered during the excavation of the NTM shaft and tunnel respectively. Excavation has been slowed down due to the use of mechanical drilling method. The progress of excavation has therefore been significantly affected.

(b) <u>On-going - Contractor's Logistic Arrangement and Site Management</u>

It is noted that there were conflicts on works fronts for the tunnel excavation and the construction of NTM VB. In particular, the frequent spoil removal at the NTM shaft after the Drill-and-blast of the tunnels had significantly affected the construction of NTM VB. Furthermore, change of senior personnel of the

Contractor within a relatively short period in 2013 has also affected the progress due to a temporary lack of senior management direction. Progress of tunnel lining works has also been slow, due partly to the Contractor's logistic arrangement of work sequence.

5.3.3.5 Mitigation measures and DRMs implemented by MTRCL:

(a) Deployment of additional plant and labour resources to improve the progress.

(b) MTRCL has been discussing with the Contractor the detailed work proposals to streamline the construction processes.

5.3.3.6 Further Mitigation measures being developed by MTRCL at end of February 2014:

(a) Deployment of additional set of formwork for lining construction upon breakthrough of the tunnels.

(b) Re-sequence and modification of works at the NTM VB and TKP EAP to cater for the late arrival of TBMs of adjacent contracts.

5.3.4 Contract 826 – Mai Po to Huanggang Tunnel

5.3.4.1 Scope of works

The scope of Contract 826 mainly involves the construction of:

(a) Twin TBM bored tunnels each of length about 1.5 km between Mai Po and the HK boundary.

5.3.4.2 Current progress

As at mid-April 2014, about 12% of the tunnel section under Contract 826 has been excavated. Currently, the two TBMs are mining underneath the Mai Po fish ponds.

5.3.4.3 Problems which have affected progress and mitigation measures taken

The following events or issues affecting the progress of works have been reported causing construction activities to lag behind the AMP. Up to February 2014, the aggregate effect is a progress delay of about 61 weeks compared with the AMP, while MTRCL is working with the Contractor on a revised target programme. We noted that mitigation measures had been formulated to catch up the progress delay which include re-sequencing of the remaining civil, track and E&M works, we have pressed MTRCL to agree with the Contractor a revised target programme as soon as possible. The following sections describe these events or issues, and the mitigation measures implemented.

5.3.4.4 Events or issues:

(a) On-going - Late arrival of the two TBMs at the HK Boundary

The construction method adopted is to make use of the same two TBMs (one for each tunnel) for the construction of the tunnel between Huanggang of Shenzhen and the HK boundary (Shenzhen section) and between the HK boundary and Mai Po (Hong Kong section). The original programme was that the two TBMs would arrive at the boundary by end 2012. Upon crossing the boundary, the Contract 826 Contractor would take over the operation of the two TBMs and continue mining the Hong Kong section to Mai Po.

The actual arrival date of the two TBMs at the HK boundary was in November 2013 and March 2014 respectively, which was about 11 and 14 months beyond the original target dates.

(b) On-going - Tunnel excavation rate lower than anticipated

Upon crossing the HK boundary, the progress of the two TBMs is generally slower than MTRCL's anticipated excavation rates for completing the excavation works of the tunnel section within 10 months, due primarily to the Contractor's resource problem.

5.3.4.5 Mitigation measures and DRMs implemented by MTRCL:

(a) Re-sequencing of the remaining civil, track and E&M works.

5.3.4.6 Further mitigation measures being developed by MTRCL at end of February 2014:

(a) Deployment of more resources for the two TBM drives and re-sequencing subsequent civil, track and E&M works.

6 REVIEW OF CURRENT PROGRESS OF OTHER MAJOR CIVIL AND E&M CONTRACTS

6.1 General

6.1.1 Apart from the seven civil works contracts identified by the M&V Consultant as discussed in Section 5 above, a review has also been carried out for the other major civil works contracts for WKT, ERS, SSS, tunnel contracts, and E&M contracts which are discussed in details in the following sub-sections.

6.2 Civil Contracts

6.2.1 Contract 811A – West Kowloon Terminus Approach Tunnel (North)

6.2.1.1 Scope of works

The Works mainly involve the construction of approximately 300 m section of the approach tunnels to WKT and include the following major items:

(a) Mongkok West Ventilation Building (MKV) and associated works;

(b) Approximately 110m of cut and cover tunnel north of MKV including provision of a temporary shaft for the retrieval of the TBM of the adjacent Contract 820; and

(c) Approximately 190 m of piled cut and cover tunnel south of MKV.

6.2.1.2 Current progress

(a) Excavation

The excavation works of the approach tunnel is almost completed (99%). The backfilling works at the northern part is in progress.

(b) Construction of MKV

The construction of MKV is in progress and the level 2 slab has been constructed.

(c) Construction of cut and cover tunnel

The concreting works is about 65% complete. In general, the progress of the cut and cover tunnel structure is in good shape where the northern part is being backfilled.

6.2.1.3 Problems which have affected progress and mitigation measures taken

The following events or issues affecting the progress of works have been reported causing construction activities to lag behind the original AMP. Up to February

2014, the aggregate effect is a progress delay of 40 weeks compared with the AMP, or 2 weeks against the revised target programme with mitigation measures or DRMs implemented. The following sections describe these events or issues, and the mitigation measures and DRMs implemented.

6.2.1.4 Events or issues:

(a) Resolved - Progress of tunnel works affected due to unfavourable artificial obstructions near West Rail Line structure

6.2.1.5 Mitigation measures and DRMs implemented by MTRCL:

(a) Deployment of additional resources in removal of the artificial obstructions

6.2.1.6 Further mitigation measures being developed by MTRCL at end of February 2014:
Not required at this moment.

6.2.2 Contract 821 – Mei Lai Road to Shek Yam Tunnels

6.2.2.1 Scope of works

The scope of Contract 821 mainly involves the construction of:

(a) A 2.7 km length twin running tunnel by Drill-and-blast method with partition for rail track
(b) Two 0.9 km bored tunnels by the Contract 820 TBM; and
(c) Kwai Chung Ventilation Building.

6.2.2.2 Current progress

Construction of the 3.6km long tunnel was completed in 2013. Major outstanding structural work inside the Main Tunnel including maintenance and evacuation walkways, is expected to be completed in May 2014. The trackwork within the completed tunnel is actively underway.

The Kwai Chung Ventilation Building has been substantially completed.

6.2.3 Contract 822 – Shek Yam to Tse Uk Tsuen Tunnels

6.2.3.1 Scope of works

The scope of Contract 822 mainly involves the construction of:

(a) A 7.65 km twin running tunnel by Drill-and-blast method;
(b) The Pat Heung Ventilation Building; and
(c) The Shing Mun Ventilation Building.

6.2.3.2 Current progress

Excavation of the 7.65km long tunnel by Drill-and-blast method was completed in early March 2014. The remaining civil work, including tunnel lining and partition wall, are expected to be completed in August 2014. The trackwork within the completed tunnel is actively underway. The Pat Heung Ventilation Building has been substantially completed. The construction of Shing Mun Ventilation Building is in progress. The Contractor has addressed the insufficient labour resources problem and improvement in production is evident.

6.2.3.3 Problems which have affected progress and mitigation measures taken

The following events or issues affecting the progress of works have been reported causing construction activities to lag behind the AMP. Up to February 2014, the aggregate effect is a progress delay of about 53 weeks as compared with the AMP, or 29 weeks against the revised target programme with mitigation measures or DRMs implemented. MTRCL is working with the Contractor on further mitigation measures and DRMs. The following sections describe these events or issues, and the mitigation measures and DRMs implemented.

6.2.3.4 Events or issues:

(a) Resolved – Slow progress in tunnel excavation works due to the encountering of fault zone which was overcome by deploying additional resources and plants.

(b) On-going - Slow progress in construction of Shing Mun Ventilation Building due to insufficient labour resources.

6.2.3.5 Mitigation measures and DRMs implemented by MTRCL:

(a) Mitigation measures included deployment of additional labour and enhancement of works procedures for reducing the blasting cycle time for the Drill-and-blast work. The Contractor had increased the work fronts by procuring more concrete formwork for the lining construction.

6.2.3.6 Further mitigation measures being developed by MTRCL at end of February 2014:

MTRCL and the Contractor would continue to discuss and work out feasible options to further mitigate the residual delay. For the tunnel section, the Contractor would increase the work fronts by deploying more concrete formwork for the lining construction and to further improve the logistics arrangement for completion of the remaining civil works. For Shing Mun Ventilation Building, deployment of additional resources and re-sequencing construction activities would be implemented,

so that early access for the subsequent trackwork and E&M works could be allowed.

6.2.4 Contract 823B - Shek Kong Stabling Sidings & Emergency Rescue Siding

6.2.4.1 Scope of works

The scope of Contract 823B mainly involves the construction of:

(a) The ERS of length about 440 m;
(b) The SSS;
(c) Approach Tunnels of length about 800 m; and
(d) Operation, maintenance, storage and plant buildings for the Shek Kong Depot.

6.2.4.2 Current progress

As at mid-April 2014, the ERS and about 70% of the approach tunnels have been completed. Completion of civil works for incoming E&M Contractor) for ten out of the 14 depot buildings have been achieved. Track works and installation of overhead power lines at the SSS areas are actively underway.

6.2.4.3 Problems which have affected progress and mitigation measures taken

The following events or issues affecting the progress of works have been reported causing construction activities to lag behind the AMP. Up to February 2014, the aggregate effect is a progress delay of about 33 weeks compared with the AMP, while MTRCL is working with the Contractor on a revised target programme. Mitigation measures including re-sequencing of civil and track works has been implemented to catch up the delay. The following sections describe these events or issues, and the mitigation measures and DRMs implemented.

6.2.4.4 Events or issues:

(a) <u>Resolved - Unfavourable ground conditions</u>
During the early stage of the construction, the progress has been significantly affected due mainly to unfavourable ground conditions that affected the ERS tunnel construction. Extra effort in breaking up obstruction during diaphragm wall construction was required due to high rock head whereas increase in difficulty was encountered during piling operation as caused by low bedrock level.

(b) <u>Resolved - Inclement weather affecting tunnel construction</u>
Wet weather during bulk excavation had affected the ERS and approach tunnel construction.

(c) <u>Resolved - Spoil disposal constraints</u>

The progress of bulk excavation during ERS and approach tunnel construction has been affected by the unanticipated constraints imposed by a major spoil receptor site around end 2012.

6.2.4.5 Mitigation measures and DRMs implemented by MTRCL:

(a) A series of mitigation measures were discussed with the Contractor in early 2012 which included deployment of additional labour and plant resources for reducing the construction time. The agreed implemented mitigation measures had the overall effect of reducing the then progress delay by about 16 months.

(b) Agreement reached with the operator of the receptor sites after negotiation to resume the normal arrangement. Other alternative disposal sites were also explored for receiving the spoil. The bulk excavation under Contract 823B was substantially completed in mid-2013.

6.2.4.6 Further mitigation measures being developed by MTRCL at end of February 2014:

(a) Re-sequencing of remaining civil, track and E&M works to mitigate the delay.

6.2.5 Contract 825 – Ngau Tam Mei to Mai Po to Tunnels

6.2.5.1 Scope of works

The scope of Contract 825 mainly involves the construction of:

(a) Twin TBM bored tunnels each of length about 2.35 km between Mai Po and Ngau Tam Mei;

(b) The Mai Po Ventilation Building.

6.2.5.2 Current progress

Breakthrough of the downtrack TBM tunnel was achieved in mid-2013 and the invert slab and cross passages are being constructed. The uptrack TBM drive commenced in July 2013 and as at mid-April 2014, the uptrack tunnel is about 50% complete. It is anticipated that breakthrough of the tunnel would likely be in the 4th quarter of 2014. The construction of the Mai Po Ventilation Building has been substantially completed.

6.2.5.3 Problems which have affected progress and mitigation measures taken

The following events or issues affecting the progress of works have been reported causing construction activities to lag behind the AMP. Up to February 2014, the aggregate effect is a progress delay of about 53 weeks compared with the AMP, or 18 weeks against the revised target programme with mitigation measures or DRMs

implemented. The following sections describe these events or issues, and the mitigation measures and DRMs implemented.

6.2.5.4 Events or issues:

(a) Resolved issue - Long down time of TBM

During the first TBM drive for the downtrack tunnel, there were frequent and sometimes prolonged down time for inspection and maintenance of the TBM that had slowed down the TBM progress.

(b) Resolved - Unfavourable ground conditions

An isolated incident of ground loss occurred during the downtrack TBM drive in mid-2012 which caused the TBM operation to be suspended for about 5 weeks. The TBM resumed mining after completion of necessary soil strengthening work.

6.2.5.5 Mitigation measures and DRMs implemented by MTRCL:

(a) Due to slow progress with the first downtrack drive, the Contractor had procured a second TBM for the uptrack drive.

(b) The Contractor has succeeded in attaining a higher excavation rate based on the experience of the first TBM drive, especially through the mixed/full face rock regions. The average rate of the second TBM drive for the uptrack tunnel is on average about 25% better than that of the first drive.

(c) The Contractor has installed a conveyor belt system within the tunnel and shaft for improving the efficiency in mucking out of the tunnel spoil, thus increasing the tunnel construction progress.

6.2.5.6 Further mitigation measures being developed by MTRCL at end of February 2014:

(a) Re-sequencing of remaining civil, track and E&M works to mitigate the delay.

6.3 E&M Contracts

6.3.1 Major E&M contracts that interface directly with civil contracts are Contracts 830 and 845. The current progress for these two contracts is summarized below for reference:

6.3.2 Contract 830 - Trackworks and Overhead Line System

6.3.2.1 The XRL would adopt non-ballasted tracks inside tunnel but use ballasted tracks at the Shek Kong Stabling Sidings (SSS) respectively. Access will be made available to Contractor for installation of trackworks and overhead line system after each section of tunnel lining is finished. As at end March 2014, the Contract 830 Contractor had been given site access to 11.3 km (22%) out of 51.3 km of mainline tunnel.

6.3.3 Contract 845 - Traction Power System

6.3.3.1 The XRL would adopt 25kV traction power system for tunnels and in the SSS. The 25kV traction power is supplied from two traction substations at Shek Kong and Mong Kok West to power the overhead line system for the high speed trains in the mainline, stabling sidings and trains under routine maintenance in the SSS with sufficient capacity and redundancy. The installation of traction substation at Shek Kong is well under way with two out of three traction transformers installed to date. With the first traction transformer in SSS Traction Substation tested and energized in end March 2014 in accordance with original project programme, the second traction substation installation work at Mong Kok West will commence in the second half of 2014.

7. DISCUSSIONS AND CONCLUSIONS

7.1 Factors Causing Progress Delays

7.1.1 To summarise, there were quite a number of issues during the construction of the XRL which had affected the progress of various contracts, resulting in progress delays. Unfavourable ground conditions, with some being unforeseen, is a common primary cause in many of these issues, affecting the whole spectrum of works, including TBM tunnelling, Drill-and-blast tunnelling, diaphragm wall construction and excavation. Other causes include Contractors' resources, workmanship and logistic problems, interfacing issues and coordination problems of Contractors, utility diversions, temporary traffic diversion constraints, and inclement weathers.

7.1.2 Despite mitigation measures and DRMs which have been implemented by MTRCL to address these issues, as at early April 2014 there are still residual progress delays at various fronts. The mitigation measures or DRMs implemented might be insufficient to recover or offset wholly the effect of past aggregate progress delays, or new issues or events might have popped up. As at early April 2014, MTRCL was working with the Contractors on further DRMs to address any residual progress delays. Details of any further mitigation measures and DRMs are still not available to us, and MTRCL have not advised us whether the further mitigation measures and DRMs would be able to address all the residual progress delays. In case MTRCL could not come up with effective mitigation measures or DRMs to mitigate the residual progress delays in a particular Contract, there would be delayed completion for the respective Contract. There may be knock-on effects to subsequent Contracts or to completion of the whole XRL Project.

7.1.3 Before the flooding event, Contract 810A and Contract 826 were more critical to the completion of the whole Project. After the flooding event, Contract 823A is added to this list. For Contract 810A, progress had been and are still affected by unfavourable ground conditions, utility diversion complications, site coordination, and inadequate work fronts. MTRCL has to properly address these issues in particular speeding up removal of the rock outcrop near the northern end of the Station. If the residual progress delays in this Contract could not be mitigated, there would be direct effect on the completion of the XRL Project. For Contract 826, progress had been affected by the late arrival of the TBMs from Huanggang. If MTRCL could not speed up the excavation rate of the TBMs as planned, there would be direct delay effect on XRL as well. For Contract 823A, progress had been affected by the slow excavation rate of

the two TBMs. The flooding of one of the TBM has made things worse. If salvage of the TBM machine and the recovery actions could not be taken expeditiously, there may be the possibility that this Contract will become the most critical affecting completion of XRL. We are still waiting for an incident report from MTRCL on the detailed findings of the tunnel flooding, TBM damage, the associated cost and programme impacts, and delay recovery plan on Contract 823A as well as the XRL Project.

7.2 Project Completion Target

7.2.1 MTRCL mentioned in the press conference on 15 April 2014 that completion of works would be delayed to end 2016. Before the flooding incident, we had asked and MTRCL had agreed to present to us (scheduled to be in April 2014 and then rescheduled to early May 2014) a detailed work plan showing how the works would be completed in 2015. After the press conference, we asked MTRCL again but still have not received from MTRCL any detailed work plan related to the announced new completion target. Contract 810A relating to the construction of the northern part of WKT is one of the Contracts critical to the completion of XRL. It is a very complicated project and the outstanding works involves many different category of works depending on each other. Effective site coordination is essential for the subsequent DRMs to be formulated. We could only provide a prudent assessment whether the end 2016 completion date is attainable until MTRCL could provide a detailed work plan showing how interfacing issues are to be resolved and whether the assumed production rates are reasonable.

Highways Department
April 2014

Annex 1.1

List of Abbreviations

List of Abbreviations

AMP	Approved Master Programme
DRM	Delay Recovery Measure
EA	Entrustment Agreement
EAP	Emergency Access Point
EPIW	Essential Public Infrastructure Works
ERS	Emergency Rescue Station
E&M	Electrical and Mechanical
HyD	Highways Department
Lloyd's	Lloyd's Register Rail (Asia) Ltd
MKV	Mongkok West Ventilation Building
MTRCL	Mass Transit Railway Corporation Ltd
M&V	Monitoring and Verification
SSS	Shek Kong Stabling Sidings
PSC	Project Supervision Committee
PTI	Public Transport Interchange
RDO	Railway Development Office of Highways Department
TBM	Tunnel Boring Machine
THB	Transport and Housing Bureau
TTMS	Temporary Traffic Management Scheme
WKP	West Kowloon Plant Building
WKT	West Kowloon Terminus
XRL	The Hong Kong Section of the Guangzhou-Shenzhen-Hong Kong Express Rail link

Annex 2.1

The proposed alignment of XRL

The proposed alignment of the Hong Kong Section of the Guangzhou-Shenzhen-Hong Kong Express Rail Link (XRL)

圖則名稱 drawing title
工務計劃項目第53TR號
廣深港高速鐵路香港段 — 鐵路建造工程
香港段位置圖
PWP ITEM NO. 53TR
HONG KONG SECTION OF GUANGZHOU-SHENZHEN-HONG KONG EXPRESS RAIL LINK – CONSTRUCTION OF RAILWAY WORKS
LOCATION PLAN OF HONG KONG SECTION

S. H. LAM
總工程師 CHIEF ENGINEER
23/11/09
日期 DATE

設計 designed K. K. LEI 23/11/09
繪圖 drawn Y. L. MA 23/11/09
核對 checked K. K. LEI 23/11/09
核准 approved C. W. YUNG 23/11/09

圖號 drawing no. HRWXRL002-SP0009

鐵路拓展處 RAILWAY DEVELOPMENT OFFICE
路政署 HIGHWAYS DEPARTMENT

A3 297X420

Annex 2.2

XRL major contract list

(value >$50M)

Annex 2.2

XRL – List of Major Contracts Awarded (Awarded contract sum value >$50M)

Civil Contracts

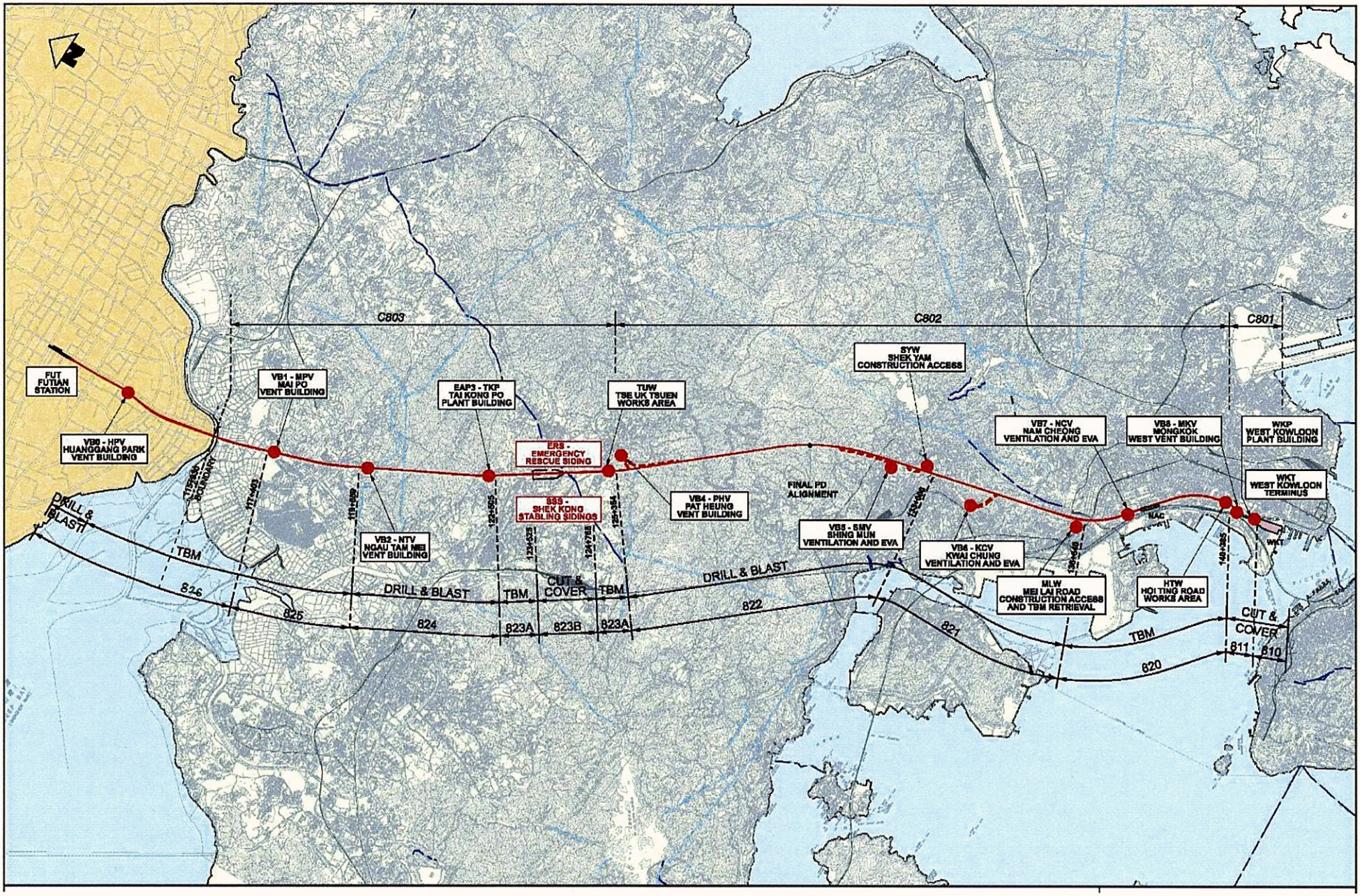
Contract No.	Description	Award Date	Awarded Contract Sum ($M)
	Tunnels		
802	Nam Cheong Property Foundation Removal/ Reprovisioning	27-Jan-10	333.89
805	Sham Mong Road Obstruction Removal	27-Jan-10	159.85
820	Hoi Ting Road to Mei Lai Road Tunnels	3-May-10	3,668.90
821	Mei Lai Road to Shek Yam Tunnels	12-Jul-10	1,383.90
822	Shek Yam to Tse Uk Tsuen Tunnels	10-Mar-10	3,235.35
823A	Tse Uk Tsuen to Tai Kong Po Tunnels	12-Jul-10	1,502.49
823B	Shek Kong Stabling Sidings & Emergency Rescue Siding	20-Oct-10	3,218.25
824	Tai Kong Po to Ngau Tam Mei Tunnels	13-Aug-10	1,514.86
825	Ngau Tam Mei to Mai Po Tunnels	27-Jan-10	1,683.62
826	Mai Po to Huanggang Park Tunnels	10-Mar-10	1,690.87
803A	West Kowloon Terminus Diaphragm Walls (Site A)	27-Jan-10	461.24
803B	West Kowloon Terminus Piles (Site A – North)	10-Mar-10	497.35
803C	West Kowloon Terminus Piles (Site A – South)	27-Jan-10	321.21
803D	West Kowloon Terminus Diaphragm Walls and Piles (WKCD)	27-Jan-10	819.05
	West Kowloon Terminus and Approach Tunnels		
810A	West Kowloon Terminus Station North	19-Oct-11	8,910.36
810B	West Kowloon Terminus Station South	12-Jan-11	3,320.62
811A	West Kowloon Terminus Approach Tunnel (North)	3-May-10	1,039.77
811B	West Kowloon Terminus Approach Tunnel (South)	13-Aug-10	2,883.25
815A	Supply of Metal Doors and Frames including Ironmongery	9-May-12	99.36
815F	Public Toilet Fit Out	9-Sep-13	53.10

E&M Contracts

Contract No.	Description	Award Date	Awarded Contract Sum ($M)
816A	West Kowloon Terminus - Environmental Control System	9 Dec 11	782.78
816B	West Kowloon Terminus - Building Services Control System	9-Dec-11	59.61
816C	West Kowloon Terminus - Electrical Installation	9-Dec-11	549.63
816D	West Kowloon Terminus - Fire Services, Plumbing and Drainage	9-Dec-11	663.64
830	Trackwork and Overhead Line System	6-Jul-11	1,168.66
840	Rolling Stocks	9-Mar-12	1,744.02
841A	Signalling System – Trackside Equipment	9-Mar-12	307.82
841B	Signalling System – Trainborne Equipment	9-Mar-12	182.07
843	Tunnel Environmental Control System	3-May-11	259.85
846	Trackside Auxiliaries	10-Aug-11	294.65
847	Lifts	6-Sep-11	175.12
848	Escalators and Moving Walkways	6-Sep-11	90.65
849	Radio Communications System	19-Oct-11	243.90
850	Passenger Mobile Communications System	12-Dec-12	105.33
851	Fixed Communications System	19-Oct-11	273.14
852	Ticketing System	16-Apr-12	165.66
853	Main Control System	8-Nov-11	65.60
855	Building Services for Ventilation Buildings and Emergency Rescue Siding	12-Jan-11	297.40
856	Building Services for Shek Kong Sidings	1-Feb-11	140.41
861A	Locomotives & Flat Wagons	13-Mar-12	78.29

Annex 2.3

XRL Contract Demarcation Plan



XRL Contract Demarcation Plan

Annex 3.1

Extract of a monthly progress report by the M&V Consultant

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Appendix H – 2	Summary Table for Monitoring of EFC and Certified Works Values
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Appendix H – 5	Financial / Cash Flow Status – Monthly

1. INTRODUCTION

Jacobs China Limited (Jacobs) has been commissioned by Highways Department (HyD/RDO) to undertake a monitoring and verification assignment for the construction, testing and commissioning phase for the Hong Kong section of Guangzhou – Shenzhen – Hong Kong Express Rail Link (XRL). This monthly report covers key monitoring and verification activities between 01 February 2014 and 28 February 2014.

This report summarises the progress and audits of the XRL project activities in the reporting month. It covers the status of project deliverables (in section 3) and reports on the extensive monitoring scope (in section 4) in project documents, submissions and construction operations (including their progress, safety, environmental issues, public opinions and costs). Dedicated sections are included to address other key XRL elements: project quality through verification audits (in section 5), scope management in building submissions (in section 6) and financial issues (in section 7). Jacobs is also vigilant of its resource allocation and its status is therefore also presented (in section 8). The report concludes with information on meetings (in section 9) that remain important in maintaining effective communication with all stakeholders involved.

The extensive information is organised into three volumes. Volume 1 contains the main text of relevant details that are complemented by summaries throughout the report. Volume 2 contains supplementary appendices to the text while Volume 3 provides monitoring details on the project costs. This report begins (in section 2) with an executive summary of the key activities and findings.

2. PROGRESS SUMMARY

The overall objective of Jacobs' Assignment is to monitor the MTR Corporation Limited (MTRCL) in relation to its ongoing management of the XRL Project. This includes compliance with its own procedures insofar as the contract works are concerned and in relation to its Entrustment Agreement with the Hong Kong SAR Government (HKSAR). This is largely carried out through formal audits, review of contract related documents and site observations. We are satisfied that, to date, MTRCL is taking due cognisance of its obligations in relation to safety, quality, environmental, programme and cost management.

The actual overall physical progress curve compared to the planned curve, calculated by the MTRCL, has continued to diverge since the commencement of construction activities in January 2010 and is now indicating that the overall progress is 54.75% (from 53.22% last month), against a revised planned 85.49% (83.42% last month); the gap has widened further from 30.20% to 30.74% against the revised baseline during the last month. Using the MTRCL S-curve as a guide indicates that the overall Project progress remains at about 11 months late overall against the original baseline and about 10 months behind the revised baseline. Whilst this means of recording provides a guide to average XRL progress trends, it does not take account of the dominant criticality of individual civil contracts and the impact of any delays therein on interfacing follow-on contracts. It is noted that based on the approved Master Programme, overall delays of 92.6 weeks (from 90.3 weeks last month) are being reported by MTRCL for the WKT Contract 810B and 93.5 weeks (from 90.0 weeks last month) for tunnel Contract 824. The real delay to opening for full revenue service of the XRL project will be the impacts of the dominant delays being recorded against the constituent

individual civil contracts on the P-way, systemwide E&M and T&C activities. Notwithstanding, MTRCL is continuing to explore how much of the individual WKT and tunnelling works contracts delays can be absorbed by the follow-on contracts programmes. As previously reported, MTRCL, due to the current progress delays in individual contracts, is looking to phase the T&C into four main parts, down track, up track, WKT and cross-Boundary. The initial focus will be to complete the down track works between Nam Cheong and Mai Po to provide sufficient length of energised railway to commence dynamic testing of the trains and integration of the systems by the end of 2014. This target is looking very challenging given the accruing delays in Contracts 823A and 824 and we await sight of MTRCL's updated programme situation, now expected in May 2014.

MTRCL carries out continuous internal programming assessments to establish the impacts of known civil works delays and seeks to extract realistic best achievable dates from its civil works contractors to recover or partly recover delays. It adopts a holistic approach when considering whether to instruct DRMs (Delay Recovery Measures) and DMMs (Delay Mitigation Measures) including assessing whether the implementation of DRMs would be more cost effective than prolongation of individual contracts. In association it also seeks to identify opportunities to accelerate the follow-on E&M works, including trackwork and OHL, to minimise impacts on the TRIP and CIP and to protect, as much as possible, the Project Completion Date. Such measures include staged access to parts of buildings and sections of tunnels, increasing labour and equipment resources and maximising working patterns.
There are currently six civil works contracts which are showing delay extending deep into the TRIP:

Contract 826	Continued poor progress of both TBM tunnels
Contract 820 (south of Nam Cheung)	Extensive delays caused by the removal of unforeseen H-pile obstructions in front of south TBM downtrack drive and two additional, one currently ongoing, delay events due to unforeseen H-pile obstructions in the south up track drive
Contract 823A	Both down track TBM drives are not yet complete
Contract 824	Slow initial progress in tunnel excavation and current slow progress in tunnel lining works.
WKT Contracts 810A, 810B and 811B	Slower than planned excavation and concrete structure works will impact access dates to track level at B4 and platforms.

Delays continue to accrue against current working programmes that have been agreed as a monitoring baseline with civil works contractors and against revised Master Programmes that are based on Supplementary Agreements.

2.1 Achievement and Ongoing Activity in This Reporting Period

Key activities that are ongoing or completed are listed in the following subsections.

2.1.1 Deliverables

During this month, all submissions have been made according to submission schedule.

The up-to-date Three-month Rolling Programme as enclosed in **Appendix A** shows the progress achieved and the key information is also summarised in this section of the report.

For details refer to Section 3 of this report.

2.1.2 Document Review

1. Five review reports related to RFDs were submitted in February 2014.

2. There were two contract summary reviews submitted in February 2014.

   Request for Documents (RFD) nos. 104 and 105 were submitted to HyD/RDO on 18 and 24 February 2014 for onward transmission to MTRCL.

   For details refer to Section 4.1 of this report.

2.1.3 Construction

1. Progress photos for the month of February 2014 were taken during the monthly site visits and bird's eye view photos subsequently taken from adjacent tall buildings after the site visits. The selected photos were submitted to relevant HyD/RDO teams on 21 February 2014 for comment and the monthly photo submission was submitted on 07 March 2014.

2 Monthly site visits for the month of February were conducted on 04, 05, 06, 07 and 10 February 2014. Site visit summary reports on each contract were prepared by Jacobs and submitted to related HyD/RDO teams for comment on 20 February 2014, details of the site visit schedule and final summary reports are presented in Appendix D.

3 Monthly site visits for the month of March were conducted on 03, 04 and 05 March 2014. Draft site visit summary reports on each contract are under preparation by Jacobs; details of the site visit schedule and summary reports are also presented in Appendix C.

For details refer to Sections 4.3 and 4.4 of this report.

2.1.4 Public Opinion

We have been submitting the weekly monitoring results to RDO by e-mail every Wednesday. For details please refer to Section 4.5 of this report.

2.1.5 Audits

We did not undertake any Technical and Financial or Process audits during February 2014.

2.1.6 Buildings Submissions

During the reported period from 01 February 2014 to 28 February 2014 a total no. of 48 assignments (15 Building + 33 Structural Assignments) were received. Up to end of the

reporting period, an aggregate total no. of 3042 assignments (803 Building + 2239 Structural Assignments) has been issued by HyD/RDO. For details refer to Section 6 of this report

2.1.7 Assignment Progress

1. Progress Report no. 41, for January 2014, was submitted on 18 February 2014.

2. Draft of Meeting notes of Progress Meeting no. 42, held on 25 February 2014, was submitted on 03 March 2014 for HyD/RDO comments.

3. Progress Report no. 42, for February 2014 will be submitted in March 2014.

2.1.8 Others

1. We attended monthly Contract Review Briefings presented by MTRCL on 18 February 2014.

2.2 Upcoming Tasks in next two months

Our work and target activities for the coming months are shown below.

1. The updated Issues Lists will be submitted to HyD/RDO in mid- March 2014 and mid April 2014.

2. We will attend Monthly Progress Meetings Nos. 42 and 43 scheduled to be held on 25 March 2014 and 24 April 2014.

3. Progress Report no. 43 is scheduled to be submitted in mid April 2014.

4. Progress photographs for the month of March 2014 were taken during the site visits and bird's eye views were taken in the following week. The selected photos will be submitted to HyD/RDO for comments.

5. Draft briefing notes for HyD's Project Supervision Committee (PSC) meeting with MTRCL in March 2014 will be submitted one week in advance of the meeting, usually scheduled on the last Friday of the month.

6. Monthly site visits with MTRCL and HyD/RDO are planned to be held in early April 2014.

7. We will attend the MTRCL Monthly Contract Review Briefings scheduled on 18 March 2014 and 22 April 2014.

8. A site visit to Contract 826 works at Huanggang will be arranged

9. A routine visit to XRL barging points, tree nurseries and explosives magazines will be arranged

2.3 Key Issues

1. Overall delays, as reported by MTRCL, continue to accrue against tunnelling and WKT contracts approved Master Programmes (AMPs) and target programmes, see table below:

Contract No.	Recorded Overall Delay (wks) Jan 2013	Recorded Overall Delay (wks) Feb 2013	Change in month (wks)	Trend against AMP	Target programme (wks) Nov (Oct)
810B	90.3	92.6	-2.3	Worse, from -1.6w to -2.3w	-8.8w (from -7.9w) P2C2 prog. (Feb 13)
810A	73.1	77.0	-3.9	Worse, from -2.5w to -3.9w	-15.6w (from -13.3w) DRM Rev 2 prog. (Jun 13)
811B	86.8	89.9	-3.1	Worse, from -2.1w to -3.1w	-22.3w (from -19.5w) DRM Rev 7A prog. (Aug 13)
811A	37.6	40.4	-2.8	Worse, from -+0.4 to -2.8w	-1.6w (from -12.5w) Draft RMP prog. (Dec 13)
820	37.6	42.3	-4.7	Worse, from +2.2 to -4.7w	-
822	50.5	53.2	-2.7	Worse, from +0.6w to -2.7w	-28.8w (from -26.8w) WO10-R6 Monitoring prog. (Jul 12)
823A	47.9	52.7	-4.8	Worse, from -3.7w to -4.8w	-
823B	29.1	33.4	-4.3	Worse from -3.0w to -4.3w	-
824	90.0	93.5	-3.5	Worse from -2.3w to -3.5w	-10.1w (from -6.9w) BE Programme (Dec 13)
825	51.7	53.4	-1.7	Worse from -1.5w to -1.7w	-17.8w (from -14.9w) DRM programme with two TBMs (Nov 12)
826	56.0	61.0	-5.0	Worse, from -4.0w to -5.0w	-

All of the above major civil contracts are indicating more than 26 weeks (six months) in delay against their approved Master Programmes, five of them are indicating more than one year delay with three contracts indicating more than 18 months (78 weeks) delay None of the above contracts indicated an improved trend in February.

2. It is noted that excavation progress in WKT contract 810A suffered further delay of 4.0 weeks against the approved Master Programme during the reporting period and is now 63.2 weeks (from 59.2) in delay. Excavation delays in contract 810B have worsened from 56.7 weeks to 60.0 weeks in the month against the Master Programme.

Both 810A and 810B are reporting further slippage in station structure works of 3.9 and 2.3 weeks respectively against their Master Programmes and are now recording 77.0 and 92.6 weeks overall delay respectively. Both 810A and 810B are being monitored against target programmes, DRM.02 (June 2013) and P2C2 (Feb 2013) respectively, and these are indicating overall delays of 15.6 (from 13.3) weeks and 8.8 (from 7.9) weeks respectively.

3. Completion of the Austin Road West underpass to permit the demolition of the temporary Austin Road West viaduct is critical to completion of the B4 slab to Degree 1 status for handing over to P-Way and TRIP works contractors and excavation is continuing at the western approach**.**

4. In Contract 811B further delays were recorded in the top down area excavation against both the Master Programme (89.9 from 86.8 weeks) and 28.3 weeks (from 24.0) against the DRM7 target programme. Progress on cut and cover tunnel excavation (bottom up) slipped 2.2 weeks to 55.4 weeks.. There remains a high risk that excavation production will slow down further when corestones and higher than previously predicted rock head are encountered in the eastern parts of the top down area below B3.

5. In Contract 820 the delayed southbound down track TBM, which broke through into the Contract 811A retrieval shaft on 24 September was re-launched, with a new cutter head, at Nam Cheung shaft on 15 December 2013 and had progressed about 157m by 06 January 2014 when it encountered an unmapped H-pile obstruction, ground improvement works enabled the obstruction to be safely removed under a compressed air intervention (CAI) and the TBM resumed tunnelling on 25 February, only to encounter another similar unmapped obstruction on 26 February, after completing 13 rings. Again, ground improvement works are currently being undertaken ahead of the cutter head to enable safe access from the TBM under CAI to identify and remove the obstruction. The delays to tunnel construction south of Nam Cheong will impact the access dates for P-way and E&M systemwide TRIP works south of Nam Cheong in both up and down track tunnels.

6. In Contract 822, tunnel excavation breakthrough between Shek Yam and Pat Heung was achieved on 01 March 2014. The critical activities towards achieving Degree 1 completion of the tunnels will be the completion of the tunnel internal structures, linings, invert slabs, dividing walls and walkways, between the two adits and achievement of this is forecast by MTRCL to be the end of August 2014 based on a draft best endeavours time/chainage programme submitted by the contractor. Contract 822 is currently in delay against the approved Master Programme by more than one year and remains about 31 weeks behind against its July 2012 target programme for tunnel lining works. MTRCL is still awaiting submission of an acceptable revised programme to completion.

7. TBM production in Contract 823A is continuing to fall well short of the required targets, 13 rings were built in the north down track in February 2014 (23 rings in January), this equates to less than one ring/day. MTRCL is forecasting breakthrough at Tai Kong Po at the end of March 2014, which will require that 52 rings be built in that month, which is a challenging target given that the average rate of construction has been 22 rings/month over the last three months. The south down track TBM

towards Contract 822 achieved 14 rings in February, 15 in January, the forecast date for the south down track TBM breakthrough is also end March 2014 which will require 36 rings be built in March. A new, improved, cutterhead will be fitted to the north TBM for the up track drive. There remains a very high risk that Degree 1 completion for the down track tunnels and thus access for P-way and systemwide E&M works may be further delayed beyond MTRCL's forecast dates of end June and end May for the north and south down tracks respectively. This would have a knock on effect on the T&C programme for the down track section south of Shek Kong Sidings

8. In Contract 824 the excavation rates in both tunnels north from Tai Kong Po continue to fall well short of planned targets, particularly in the more critical down track, with only about 70m being excavated in the down track in February 2014. Only 24m of down track and 108m of uptrack lining was constructed in February, these rates of production are well below the target rates necessary to achieve the contractor's best endeavours Degree 1 date for both tunnels of December 2014 for the down and up tracks respectively. A third lining formwork has been delivered to site but we understand from MTRCL that it will not be utilised until after both tunnels have broken through just south of Ngau Tam Mei. Excavation for the more critical down track tunnel is now 80 weeks (from 75 weeks) behind the approved Master Programme and tunnel lining production has slipped further behind the planned targets for each tunnel with the down track tunnel now about 11.5 weeks (from seven weeks) in delay against the contractor's October 2013 best endeavours programme. As with Contract 823A above, there is a high risk that the timely achievement of Degree I for the Contract 824 up and down track tunnels may not fit in with MTRCL's current T&C strategy.

9. In Contract 826 the down track TBM, which reached the Mainland Boundary on 24 November 2013, has progressed about 166m from the Boundary, tunnelling only 40m in February 2013 against a target of 165m. The up track tunnel TBM made better production with 248m (against a target of 268m). The down track TBM still has more than 1.3km to drive to the retrieval shaft at Mai Po and if energisation of this section for T&C is to be achieved by mid 2015 then Degree 1 will be required by the end of 2014 which will require that the down track tunnel drive from the Boundary be completed by the end of August 2014 at the latest, this would require an average rate of 109 rings/month (218m/month) which remains a challenging target given progress rates achieved to date.

3. PROGRESS SUMMARY ON DELIVERABLES (as stipulated in Clause 5 of the Brief for the Assignment)

During this month, all submissions are made according to the submission schedule. The status of the submissions is detailed in the rest of this section.

3.1 Inception Report

Completed and closed.

Annex 3.2

LC Paper No.
CB(1)1573/09-10(04) and
extract of LC Paper No.
CB(1)2290/09-10(01)

LC Paper No. CB(1)1573/09-10(04)

For information
16 April 2010

Legislative Council Panel on Transport
Subcommittee on Matters Relating to Railways

Government's Monitoring and Reporting on the Construction of the Hong Kong Section of Guangzhou-Shenzhen-Hong Kong Express Rail Link

Introduction

This Paper briefs Members on the Government's monitoring mechanism on the construction of the Hong Kong section of the Guangzhou–Shenzhen– Hong Kong Express Rail Link (XRL) and the proposal of regular reporting to the Legislative Council (LegCo) on the XRL project.

Background

2. The Hong Kong section of the XRL is an express rail connecting Hong Kong with Shenzhen, Dongguan, and Guangzhou and will form part of the national high-speed rail network. Following the approval of the Finance Committee of the LegCo on the funding for construction of the railway and non-railway works of the Hong Kong section of the XRL on 16 January 2010, Government entered into an entrustment agreement with the MTR Corporation Limited (MTRCL) on 26 January 2010 for the construction and commissioning of the XRL project. Construction works then started in end January 2010 for completion in 2015.

Monitoring Regime for the Implementation of the XRL Project

3. Under the entrustment agreement, the MTRCL is responsible for the overall management of the project. In doing so, the MTRCL has to comply with its own management systems and procedures. The MTRCL also has the

obligation to provide any information concerning any matters relating to the XRL project as requested by the Government. The Government spares no effort in monitoring the works of MTRCL to ensure that the implementation of the project is within the approved project estimate, of good quality and on schedule.

Project Supervision Committee

4. The Director of Highways, being the controlling officer responsible for the XRL project, leads a high-level inter-departmental Project Supervision Committee (PSC). The Committee holds monthly meetings with the MTRCL and the related Government departments to review project progress, monitor procurement activities, post tender award cost control and resolution of contractual claims. The PSC also provides steer on any matters that would affect the progress of the XRL project.

5. To support and complement the PSC's effort, the Highways Department (HyD) inserts various check points into the MTRCL's relevant work processes so that issues of potential concern can be flagged up and appropriately resolved at an early stage.

Check Points in the MTRCL's Work Processes

(a) Tendering procedure

6. The MTRCL engages services from consultants, contractors and suppliers for the XRL project by means of a four-stage process, which includes expression of interest, pre-qualification for shortlisting of tenderers, tendering and tender assessment. In general, the Procurement Team of the MTRCL undergoes this four-stage process before making recommendations for tender award. The Team submits recommendations for approval of the Divisional Director, the Tender Board, or the MTRCL Board depending on the tender sum.

7. The procurement and tendering procedures of the MTRCL comply with the provisions of the World Trade Organisation's Agreement on Government Procurement. The same procedures also apply to the contracts relating to the Hong Kong section of the XRL project, including those that have been tendered.

8. Representatives of the HyD, normally at directorate level, attend tender readiness presentations made by the Procurement Team and all meetings of the Procurement Team and the Executive Tender Panel concerning procurement of works and services for the XRL project. Where a major procurement decision is to be made by the MTRCL Board, the Director of Highways participates in the relevant meeting of MTRCL's Executive Committee that makes recommendations to the Board.

(b) Project management

9. The MTRCL holds monthly project report meetings to monitor the progress of the XRL project. Representatives from the HyD attend such meetings. The MTRCL is also required to submit relevant information to the HyD. Upon request, the MTRCL will arrange briefings for the HyD and/or other Government departments on issues that may have bearing on the cost, quality or progress of the works.

(c) Cost and budget control mechanism

10. The MTRCL has built-in mechanism that enables and encourages cost saving initiatives. During the tendering process, tenderers are allowed to submit alternative proposal which may achieve better performance and/or at lower costs. During the course of construction, the MTRCL, its contractors, suppliers and the relevant government departments conduct value engineering sessions to identify and assess opportunities that can save cost while delivering the same or even better values. These processes, in which HyD representatives participate, help bring down the overall project cost of the Hong Kong section of the XRL.

11. The MTRCL convenes cost control meetings to review the financial situation of the constituent consultancies, construction contracts and the XRL project as a whole. Representatives from the HyD attend these meetings. The MTRCL has also set up a Project Control Group to scrutinize the assessment of variations and claims arising from the contracts of the XRL project. The HyD representatives, at directorate level, attend such meetings to provide comments and reflect views of the Government.

External monitoring and verification

12. In view of the scale of the XRL project, the HyD will also employ an external consultant to assist in the monitoring work and undertake regular audits to verify the MTRCL's compliance with its obligations under the entrustment agreement with Government. The monitoring and verification exercise is not limited to the work of the MTRCL, but also includes that of the consultants, contractors or agents employed by the MTRCL for the XRL project. Moreover, the HyD consultant will identify and advise the HyD any potential risk regarding the implementation of the XRL project and propose appropriate mitigation measures. This would help ensure that the XRL project will meet the required standards and will be completed on schedule and within budget.

Reporting on Progress and Finance of the XRL Project

13. When seeking the approval of the LegCo Finance Committee for the funding applications for the railway and non-railway works of the XRL project in January 2010, the Government undertook to report regularly to the Subcommittee on Matters Relating to Railways (the Subcommittee) of the Panel on Transport of the LegCo on the construction of the Hong Kong section of the XRL.

14. We note that the Government reported to the LegCo regularly on the progress of the Airport Core Programme (ACP) projects to enable LegCo to keep track of the large scale projects. Members generally felt that this was an effective monitoring arrangement. We propose that the reporting framework used for the ACP projects be adopted for the purpose of reporting to the Subcommittee on the XRL project. A copy of the ACP report for the period

from July to September 1997 is enclosed at **Appendix** for reference. Similar to the ACP reports, we propose that the XRL reports should cover the progress and the financial position of the construction of the XRL project. Major items to be covered by the XRL reports are set out below.

15. The ACP comprised a wide range of projects, covering the airport, highways, railways, tunnels, reclamation and new town development, implemented by various parties and funded in different ways. The ACP reports provided updates on the progress of individual major projects, including updated cost estimates, funding and financing positions, and claims. The XRL project is one single rail project under the public works programme. It comprises mainly tunnel and terminus construction and the ancillary railway facilities and road works. To enhance transparency and provide the Subcommittee with a more in-depth update, we propose to divide the XRL project into three major components, namely –

(a) the railway tunnels, including the ancillary railway facilities;

(b) the West Kowloon Terminus, including the road works and pedestrian links in the nearby area; and

(c) system-wide electrical and mechanical works, including rolling stock.

16. To enable Members to keep track of the progress of the XRL project to ensure timely completion, we will report the works done and major contracts[1] awarded for each major project component during the reporting period as well as the planned works and the schedule of major contracts to be awarded in the next reporting period. The report will also cover the progress of major pre-construction preparatory work (such as land clearance, condition surveys for buildings along the railway alignment, and important temporary traffic arrangements), as well as major interface issues (such as traffic impact in affected areas due to construction works and coordination with related projects).

[1] Major contracts with contract sum exceeding HK$50 million will be reported to the Subcommittee. Other contracts will be reported collectively.

As to the financial situation of the XRL, we will report the expenditure position and contractual claims of each major project component during the reporting period.

17. As the XRL project is fully publicly-funded with a narrower scope than the ACP, its project management is expected to be less complicated. We consider it appropriate to update the Subcommittee on the construction of the XRL project at six-month intervals.

18. Subject to Members' views, we propose that the first report should cover the period between 16 January 2010, when the Finance Committee approved the project funding, and 30 June 2010. Subsequent reports will cover six month periods ending 31 December and 30 June of the future years until the high-speed railway is commissioned.

Transport and Housing Bureau
April 2010

Appendix

For information **FCRI(97-98)31**

NOTE FOR FINANCE COMMITTEE

Quarterly Report on Progress, Financing, Cost Estimate, Funding and Claims of the Airport Core Programme Projects
(July to September 1997)

INTRODUCTION

This is the thirteenth quarterly report on the Airport Core Programme (ACP) projects for the Finance Committee, and covers the period July to September 1997. A summary is at Enclosure 1 and the full report is at Enclosure 2. The ACP claims summary is at Enclosure 3.

Encl. 1
Encls. 2&3

2. Subsequent to the issue of the last quarterly report in August 1997, we have completed a review of the cost estimates for the ACP. Principally because of rigorous cost control efforts of the Government, the estimated net expenditure for government ACP projects has been reduced from $50,650 million by $1,042 million to **$49,608 million**. While the cost estimates for the new airport, Airport Railway (AR) and Western Harbour Crossing remain unchanged, the adjustments on the part of government projects have reduced the overall ACP cost estimates from $156,364 million to **$155,322 million**.

3. We would be happy to give a more detailed briefing on the report, and to answer questions, if Members so desire.

OVERALL PROGRESS OF THE ACP

4. As at 30 September 1997, the overall ACP is approximately 90% complete and we have completed 99% of the government ACP works. So far, 181 major ACP contracts have been awarded by the Government [92], the Airport Authority (AA) [57], the Mass Transit Railway Corporation (MTRC) [31] and the Western Harbour Crossing franchisee [1], at a total value of $96,361 million.

/5. .....

5. The AA's works for the new airport and the AR works were both 89% complete as at 30 September 1997, and are on course to meet their respective target opening dates of April and June 1998. Preparatory work for new airport and AR opening has now entered a critical stage. Efforts are being made by all concerned to ensure that the works programme as well as all the preparation work, such as systems, testing and commissioning, training and trials, etc. that are required for airport and AR opening will be completed on schedule.

UPDATED COST ESTIMATES OF THE ACP

6. The ACP budget has been reduced to **$155,322 million** as a result of the reduction in estimated expenditure for government ACP projects from $50,650 million to $49,608 million. The cost estimates of AA's share of the new airport project and of the AR remain within the estimates of $49,787 million (based on April 1998 opening) and $34,000 million (based on June 1998 opening) respectively.

7. The net government ACP budget has been reduced by $1,042 million primarily because of savings identified in Government Facilities at the New Airport ($488 million), Tung Chung Development Phase 1 ($326 million), Lantau Link ($107 million), Route 3 ($303 million), West Kowloon Reclamation ($492 million) and Utilities and Others projects ($109 million). These gross savings of $1,825 million from project budgets less the reductions of $783 million in the reimbursements from AA and MTRC for the new airport and AR related projects result in a net saving of $1,042 million.

8. As for the West Kowloon Reclamation (WKR), while individual works item under the project (WKR Hinterland Drainage Package 1) will require an additional funding of $35 million, we have been able to identify a net saving of $492 million for the project as a whole. This comprises $242 million related to works under four WKR works items and $250 million from land resumption and compensation expenditure.

9. There is a reduction of $747 million in the reimbursement from the MTRC due to the setting up of advance accounts so that some works originally intended to be temporarily funded by Capital Works Reserve Fund project contingencies have been directly funded by the MTRC. The reduction of $36 million in the reimbursement from the AA is due to the decrease in the estimate for North Lantau Refuse Transfer Station.

/**FUNDING** .....

FUNDING POSITION OF THE ACP

10. The Finance Committee has so far approved a net total of $49,897 million for government ACP projects. This represents 101% of the revised project estimates. As at 30 September 1997, the Administration had committed $45,342 million, or 91% of the project estimate. Of this, we had spent $43,790 million or 88% of the project estimate. We intend to reduce the amount of funds approved by the Finance Committee for various Public Works Project items to reflect the revised estimates. The revised figures will be incorporated in future quarterly reports.

11. The Finance Committee has approved an equity commitment of $36,648 million for the new airport. As at 30 September 1997, the AA had committed $42,048 million, or 84% of the project estimate. Of this, the AA had expended $40,502 million, or 81% of the project estimate.

12. The Finance Committee has approved an equity commitment of $23,700 million for the AR. As at 30 September 1997, the MTRC had committed $30,399 million, or 89% of the project estimate. Of this, the MTRC had expended $27,286 million, or 80% of the project estimate.

FINANCING OF THE NEW AIRPORT

13. On 19 September 1997, the AA signed a HK$4,000 million syndicated revolving credit facility with 32 international financial institutions. This facility is for general corporate purposes, including the financing of the second runway, the northwest concourse and new capital expenditure arising after the opening of the new airport. The facility will not be used for the opening phase of the new airport (Phase 1a), for which funding provisions have been made through a credit facility of HK$8,200 million signed by AA and a group of 48 banks in January 1996.

CLAIMS

14. As at 30 September 1997, the Government, the AA and the MTRC had received a total of 18 536 claims against 152 major ACP construction contracts. Of these, we have resolved 5 224 at a cost of $2,580 million against an original claim amount of $9,741 million. Our current assessment is that sufficient contingency remains to meet the unresolved claims, and that we will have a reasonable balance to meet changes and variation orders for the remaining contract period.

/**THE** .....

THE NEXT QUARTERLY REPORT

15. The next quarterly report covering the period October to December 1997 will be issued in January 1998.

New Airport Projects Co-ordination Office
Works Bureau
November 1997

Enclosure 2

ACP QUARTERLY REPORT July - September 1997

Quarterly Review

As at 30 September, we had completed approximately 90% of the ACP, with government ACP works 99% completed. 181 major ACP contracts at a total cost of approximately $96 billion had been awarded by Government (92), AA (57), MTRC (31) and Western Harbour Tunnel Company Ltd (1). The list of major ACP contracts awarded so far is at Annex I and the tender schedule for the next quarter ending 31 December 1997 is at Annex II. A list of countries, indicating the extent of their involvement in major ACP contracts awarded, is at Annex III.

The New Airport
AA Works

The AA works were approximately 89% complete.

Final fixings for the roof membrane of the Passenger Terminal Building (PTB) were substantially complete except for those at the northwest and southwest concourses. Clerestory gasket installation was complete in the processing terminal, north and south concourses and the east hall. Acceleration measures have been taken by the superstructure contractor to meet the revised target completion date by December 1997. Fit-out works continued on all fronts, and some critical items would be airfreighted to recover previous slippages. Placement of the

granite hard flooring in the public areas was 78% complete. Fitout works for the landlord areas, public toilets, fixed link bridges (FLBs) and government areas continued.

Primary and secondary steelwork for 37 out of the 38 FLBs has been completed, with 34 installed with cladding panels. All 76 aircraft loading bridges have been delivered to site, out of which 52 have been erected and 36 pre-commissioned.

Overall, the PTB building services contract was 89% complete, with installation 84% complete. Acceleration measures have been taken by the contractor to meet target substantial completion by mid-January 1998. Works continued in the communication rooms, FLBs and internal fit-out works areas.

Works continued on the specialist contracts for the automated people mover (APM), lifts and escalators, fixed ground power and baggage handling system. Test running for APM vehicles commenced in August following successful inspection by the Hong Kong Railway Inspectorate. Overall installation of the APM was 94% complete. Installation of 48 out of the 54 moving walkways was substantially complete, with testing and commissioning 5% complete. Lift installation was 88% complete with testing and commissioning 25% complete. Work on installation of 57 out of the 61 escalators continued with overall installation 97% complete and testing and commissioning 3%

complete. Baggage handling conveyor works continued on programme and was over 95% complete. Computers have been installed in the baggage control room and software testing on site has commenced.

As for special systems contracts, acceleration measures have been implemented to achieve the target programme, with special attention paid to potential problem areas, including voice and data cabling, flight information system, fixed communication system and systems integration programme.

Progress on the Ground Transportation Centre (GTC) is improving. The MTRC and AA were working closely with a view to providing timely access to plant and communications rooms within the station for commencement of AR system contracts. Roof completion was targeted for mid October to allow MTRC critical access to the departures level trackbed and overhead catenary and platform screen door brackets.

The airfield works were proceeding with asphalt base and wearing course placement on the crossfield and northern taxiways. The cargo apron was complete. Pavement quality concrete and block paving works continued in the apron areas surrounding the PTB. Over 83% of pavement quality concrete has been laid. Laying of block paving was over 41% complete. Pre-commissioning of the airfield ground lighting has commenced. High mast lighting erection was complete at the cargo

apron, and continued at the PTB apron with 82 out of the 122 masts erected. Pressure testing of the aviation fuel system continued. Over 70% of the fuel pipeline system covering the PTB's south, north and west aprons has been tested.

As for landside infrastructure, works concentrated on the expressway, the south perimeter and the roads in the catering south commercial area. Work on bridges and drainage works for the airport expressway and landside areas continued. The deck and retaining walls for the five southern bridges were complete and parapet works were underway. Works on the eastern airfield tunnel and approach ramps were substantially complete. Testing and commissioning of the essential electrical and mechanical equipment was sufficiently complete for tunnel opening. Outstanding work in the western tunnel was limited to completion of backfill of the south portal end wall.

Development of the Airport Operational Readiness (AOR) programme continued, covering activities that were critical for airport opening. The Airport Opening Implementation Plan was being regularly refined. AA continued to monitor the developments of its franchisees and other commercial developments.

Franchises

Progress on Hong Kong Air Cargo Terminals Ltd (HACTL)'s Superterminal 1 facility has experienced delays on the main building and

cargo systems installations. This was accentuated by the wet weather with incomplete roof covering, resulting in a six-week delay in overall terms and a 16-week delay in the box storage system. HACTL was working with the contractor on acceleration measures to meet target 50% operational capacity by end April 1998. Meanwhile, installation of warehouse cargo handling equipment continued along with assembly of cargo transfer vehicles as well as erection of the box storage system racking and stacker cranes in the north and south voids. The first zone of the west cargo storage system was fully commissioned and handed over to HACTL for system integration on 29 September.

Asia Airfreight Terminal Co Ltd's main building works continued with concrete works complete and the roof under construction. Building services work was underway on all levels. Erection of racking for the automatic storage and retrieval system as well as the pallet handling system was underway.

Installation of glazing and curtain walling continued for Cathay Pacific Catering Services (HK) Ltd's facility, with testing and commissioning of stacker cranes underway. Lifts were ready for inspection following energisation of transformers. Weather-tightness has been achieved for the LSG Lufthansa building. Installation of chillers and freezers inside the building was complete while electrical and mechanical installation

continued. As for Gate Gourmet, concrete works have been completed, blockwork and electrical & mechanical installation continued, and cladding steelwork has commenced.

Aviation fuel tank farm works at Chek Lap Kok continued. Progress of internal and external painting of the nine tanks was affected by the wet weather, but this should not have impact on the overall programme. The fuel receiving facility at the Sha Chau Jetty structure was over 84% complete. Dredging of the basin adjacent to the jetty was 60% complete.

At the Hongkong Aircraft Engineering Co Ltd's site, both halves of the hangar roof steelwork have been assembled and lifted into position. Assembly of the hangar doors has commenced.

All in all, satisfactory progress was being made by the AA and all concerned to meet the April 1998 target opening date. On PTB works, acceleration measures have been put in place to meet the target of issuing the temporary occupation permit by December 1997. Preparation for operational trials for the PTB commencing from January 1998 was well advanced. In addition, good progress was being maintained in the development of the five-phase plan for the mobilisation and move of airport operations from Kai Tak to the new airport.

Meanwhile, special attention continued to be

directed to five key areas, i.e. fit-out works at the PTB; progress of works of franchisees, particularly HACTL's cargo handling facilities; progress on various systems and software; the AOR Programme; and the recruitment and training of staff for airport opening.

Government Facilities at the New Airport

Overall, the projects were 91% complete, tracking slightly ahead of programme.

The Air Traffic Control Complex, Police Station, Microwave Station and Sub-divisional Fire Station were substantially complete. Work on building services and systems installation continued at the Government Flying Service Building and the Airmail Centre.

Installation, acceptance testing and calibration of most of the air traffic control systems were substantially complete. The Civil Aviation Site Acceptance Test was scheduled to commence in October 1997. Minor rectification work continued on the off-the-shelf simulator, aerodrome terminal information system, speech processing equipment, surveillance radars, world area forecast system data processing workstation and the aviation meteorological data processing system. Most of the postal mechanisation system equipment has been delivered to site and installation work was progressing well.

Airport Railway (AR)

Overall, the AR was 89% complete with progress generally in accordance with the project programme. While building services work at Tsing Yi Station was 30% complete, critical cable containment and cable installation to support Test Running in early 1998 were progressing well. Delay recovery measures were being implemented to meet critical access dates for system-wide contracts.

On Hong Kong Station, work on the floor finishes and ceiling works at the Airport Express Line (AEL) concourse and mezzanine floor was in progress. Finishing works and building services installation at the Hong Kong Station were 60% complete. The contractor would increase the output of these works to meet the critical access dates for system-wide contractors. As for the Central Subway, architectural finishing works have commenced following substantial completion of the reinforced concrete work. Overall, works were 86% complete.

Structure of the Kowloon Station was nearly complete, and building services work at the Tung Chung Line (TCL) level and at AEL level was 35% complete. Construction of the western elevated road was progressing well with all piers and crosshead completed. Overall, works were 82% complete.

Waterproofing work for the Olympic Station

structure was complete and system-wide works were in progress. Overall, works were 98% complete.

At the Lai King Station, deviation of the existing MTR Tsuen Wan Line (Tsuen Wan bound) was effected on 6 July 1997, following which construction of platform extension slab over the abandoned track commenced. Building work, building services installation and system-wide work continued. Overall, works were 87% complete.

Architectural finishing works for the Tsing Yi Station were in progress. Critical fibre optic cable pulling from central equipment room to all four cable termination rooms at platform was progressing well. Manpower for building services work has increased to meet the critical access dates for system-wide contractors. Overall, works were 88% complete.

Building and architectural finishing works at the Tung Chung Station were in good progress. Building services work were 78% complete. Overall, works were 95% complete.

The main and ancillary buildings at the Siu Ho Wan Depot, the depot access road bridge and associated road work were substantially complete. Building work, building services installation and system-wide work continued. Overall, works were over 98% complete.

Mitigation measures were in place to mitigate previous delays experienced in the works entrusted to the AA's Landside Infrastructure and GTC contracts. Plant rooms in the Airport Station have now been made available to MTRC's contractors, whose target was to complete the system-wide contracts by end 1997 for commencement of AR Test Running.

Tracklaying works from the Airport Station at Chek Lap Kok to the Hong Kong Station were in progress. Commissioning of the mainline test track was substantially complete. Test runs of the TCL trains in North Lantau at a speed of 135 km/hr were successfully performed in August 1997. The contractor has mobilised additional resources and plans for night works were being formulated to increase tracklaying productivity at Hong Kong Station, Kowloon Station and on Chek Lap Kok. Overall, works were 98% complete.

Signalling installation continued on schedule. Main cabling was substantially complete from the middle of Tsing Ma Bridge to just before the Airport Station, and from Olympic Station to the Lai King viaduct. The manufacturing and delivery of fans, dampers, cables, motor control centres and environmental control system control panels continued.

Overall, good progress continued to be made by MTRC towards meeting the June 1998

target commissioning date. The Kowloon Station was topped out in September; tracklaying was near completion; and the test run for the first TCL train was successfully performed in August. With the substantial completion of civil works and trackwork, emphasis was now placed on completion of the electrical and mechanical system-wide installations to allow the timely commencement of AR Test Running scheduled for early 1998.

North Lantau Expressway (NLE)

The NLE project was essentially complete with only minor remedial works outstanding.

Tung Chung Development Phase 1 (TCD)

The project was 96% complete.

Commissioning tests for the Tung Chung Pumping Station and the Siu Ho Wan Sewage Treatment Plant were complete. The Police Station was substantially complete.

Work on the Refuse Transfer Station was progressing well. The Station is expected to be operational by March 1998 to tie in with airport opening in April 1998. Design work was substantially complete, and construction of the superstructure and the marine vessel was in progress.

The Home Ownership Scheme blocks and public rental flats were complete and handover of flats to residents commenced on 21 July and 19 August respectively. Other

	facilities were being commissioned in stages to support the population intake.
Lantau Link (LL)	The LL was essentially complete. Following completion of site acceptance tests, the essential traffic control and surveillance systems and equipment were handed over to the Tsing Ma Control Area operator for operation in August 1997.
Route 3 – Kwai Chung and Tsing Yi Sections (RT3)	The RT3 project was essentially complete. Minor outstanding works and rectification of defects would be completed within the maintenance period.
West Kowloon Reclamation (WKR)	Overall the WKR was 99% complete. Hinterland drainage works in the southern and northern areas were substantially complete. The outstanding road reinstatement works were scheduled for completion by December 1997. Some of the localized ACP drains/pipes in the hinterland were behind programme. Actions have been taken by the contractors to expedite progress, which would be closely monitored. All of the ACP new roads in WKR have been opened to traffic except for the eastbound carriageway of Road SR4, which would be

completed and opened to traffic by December 1997.

West Kowloon Expressway (WKE)

The WKE project was essentially complete. Minor outstanding works would be finished within the maintenance period.

Central Reclamation Phase 1 (CWR)

Works under the reclamation contract were essentially complete. The following outstanding station-related works, which have been entrusted to the MTRC and included in the AR Hong Kong Station Contract, are expected to be completed by June 1998:

- Rumsey Street flyover extension: falsework for the first span of the bridge deck was complete; construction of columns and pilecaps continued; and casting of the first span of the deck would commence.

- Jubilee Street underpass: Stage 2 construction of the diaphragm walls and base slabs was complete; stage 3 construction has commenced.

- New bus termini: work has yet to commence.

- Footbridge FB1: construction was in good progress.

- Pumping Station: base slab has been cast; and casting of walls continued.

	• Remaining Landscape work has yet to commence.
Utilities and Others	The ACP-funded utilities (i.e. water works) were essentially complete.
Western Harbour Crossing (WHC)	The WHC was complete and opened to traffic on 30 April.

Enclosure 3

ACP Claims Summary as at 30 September 1997

Introduction

1. ACP construction contracts apportion risks involved in the construction process between the Employer and the Contractor. They must therefore contain means by which contractors may submit claims for additional money (cost claim) or time (extension of time or "EOT") or both, associated with the risks where the Employer has liability. Contractual claims are a normal and natural part of construction contracting.

2. From the inception of the ACP, the Government has aimed to set in place systems which will enable the early identification of contractual claims. Equally, we have put in place mechanisms which would allow claims to be dealt with early and to avoid, as far as possible, contractual claims turning into formal contractual disputes.

Total claims recorded against ACP

3. As shown at the Annex, the Government, the Airport Authority (AA) and the MTR Corporation (MTRC) (collectively referred to below as the Works Agents) had awarded a total of 152 major ACP construction contracts with a total award value of $89,291 million as at 30 September 1997. We have not included the contract for the Western Harbour Crossing because the franchisee is responsible for all claims on the contract.

4. The Works Agents have recorded a total of 18,536 claims against the awarded contracts since inception. Of these, the Works Agents have resolved 5,224 claims either by way of settlement or withdrawal of the claims by the contractors, leaving 13,312 unresolved claims.

Settlement of claims

5. In resolving the 5,224 claims, the Works Agents have awarded $2,580 million to the contractors. The original amount claimed was $9,741 million.

Enclosure 3
(cont'd)

Unresolved claims

6. As at end September 1997 unresolved claims for CWRF projects totalled 2,620 and the total amount claimed was $4,115 million. The estimated contingent liability for these unresolved claims stood at $863 million.

7. As at 30 September 1997 the AA had a total of 49 major construction contracts. Against these, 8,304 claims had been recorded and 7,072 remained unresolved. contractors were seeking a total of $6,003 million against such unresolved claims and the AA's estimated contingent liability stood at $1,840 million.

8. For the MTRC, the number of awarded AR contracts remained at 31 as at end September 1997. Against these, 4,620 claims had been recorded with 1,000 of them resolved. The amount claimed by contractors in respect of the 3,620 unresolved claims was $3,270 million. The MTRC's estimated contingent liability stood at $1,480 million.

9. In total, of the 13,312 unresolved claims, 10,260 are claims for cost or both cost and EOT. The contractors were, as at end September, seeking recovery of $13,388 million for these claims and the Works Agents have estimated their contingent liability against these claims at $4,183 million.

10. Current assessment by the Works Agents indicates that there is sufficient contingency within the revised estimate for the ACP projects to settle these claims while leaving a reasonable balance to meet changes and variation orders for the remaining contract period.

11. EOT claims will also be closely monitored to ensure that critical contract completion dates will remain unaffected. The Works Agents will, as a safeguard, have the right to order acceleration measures in those instances where a valid EOT claim might jeopardise a critical completion date.

12. In short, we are confident that sufficient allowance exists within the overall ACP budget to meet ACP claims requirements.

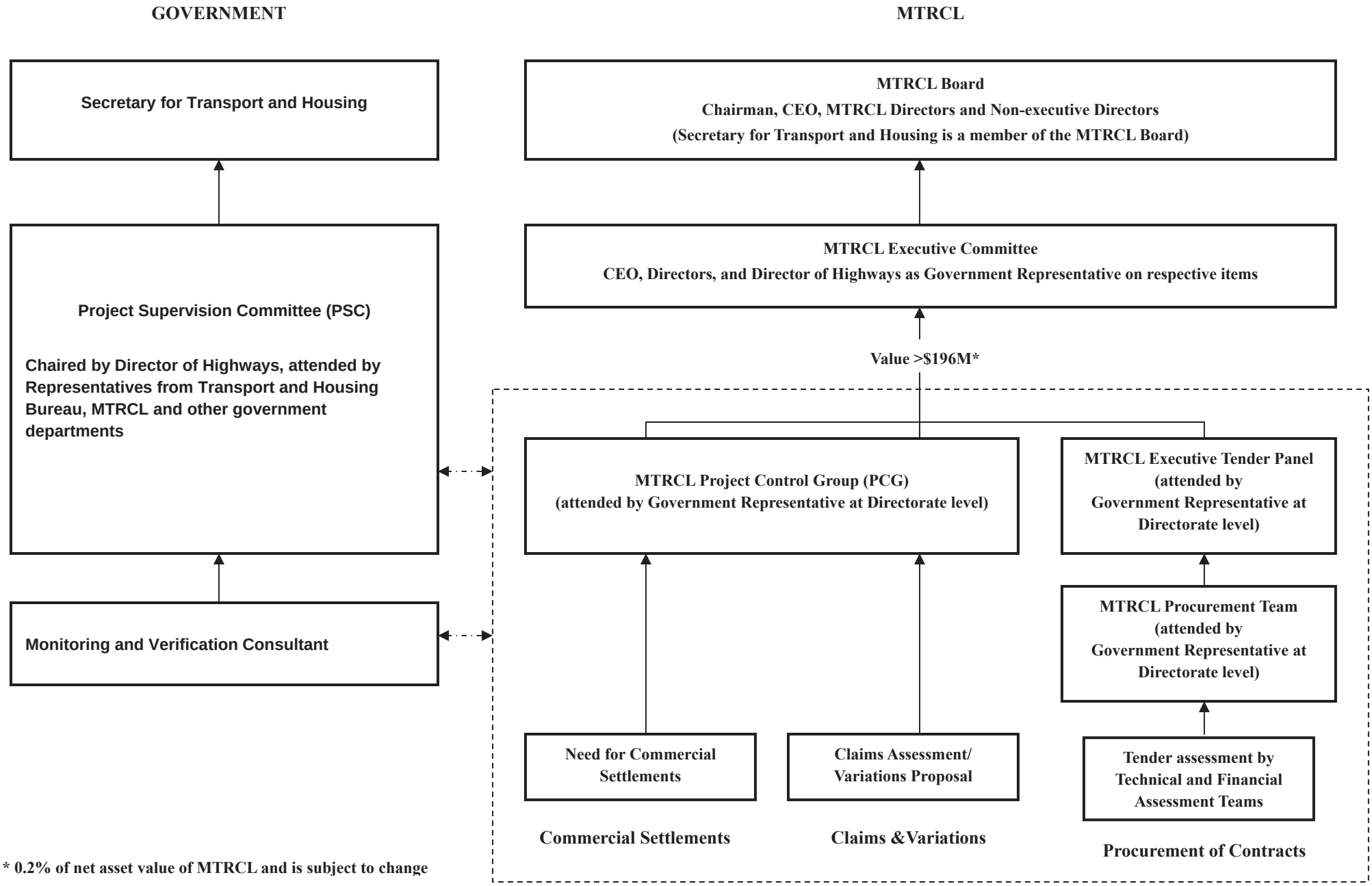
Annex

Situation on ACP Contractual Claims
(as at 30 September 1997)

ACP Project	Number	Award Value $M	Works completed [2] $M	Number	Number	Amount claimed originally $M	Amount awarded $M	Number [3]	Amount claimed $M	Estimated contingent liability[4] $M
CWRF	72	37,393	36,645	5,612	2,992	5,637	964	2,620	4,115	863
AA - CLK Airport	49	34,142	30,828	8,304	1,232	2,556	1,050	7,072	6,003	1,840
MTRC - Airport Railway	31	17,756	17,860	4,620	1000	1,548	566	3,620	3,270	1,480
TOTAL	152	89,291	85,333	18,536	5,224	9,741	2,580	13,312	13,388	4,183

Notes :
[1] Excludes non-construction contracts such as design, supply and equipment contracts.
[2] May exceed award value due to contract variations
[3] Includes rejected claims
[4] Includes interim awards

Flowchart on Government's monitoring mechanism on the construction of the Hong Kong section of the XRL Project



* 0.2% of net asset value of MTRCL and is subject to change

Annex 4.1

Extract of Notes of Subcommittee on Matters Relating to Railways (RSC) Meeting on 22 November 2013

立法會
Legislative Council

立法會CB(1)1010/13-14號文件
(此份會議紀要業經政府當局審閱)

檔　號：CB1/PS/1/12

交通事務委員會

鐵路事宜小組委員會會議紀要

日　期　：**2013年11月22日(星期五)**
時　間　：**上午10時45分**
地　點　：**立法會綜合大樓會議室3**

出席委員　：田北辰議員, BBS, JP (主席)
涂謹申議員
陳鑑林議員, SBS, JP
王國興議員, BBS, MH
湯家驊議員, SC
謝偉俊議員, JP
梁國雄議員
易志明議員
范國威議員
葛珮帆議員, JP
鄧家彪議員
盧偉國議員, BBS, MH, JP
鍾樹根議員, BBS, MH, JP
謝偉銓議員

缺席委員　：陳恒鑌議員(副主席)
李卓人議員
葉劉淑儀議員, GBS, JP
胡志偉議員, MH

出席公職人員 ： 參與議程第IV項的討論

運輸及房屋局副局長
邱誠武先生, JP

運輸及房屋局副秘書長(運輸)2
陳帥夫先生

運輸及房屋局首席助理秘書長(運輸)4
任浩晨先生

機電工程署助理署長／鐵路
梁建民博士

參與議程第V項的討論

運輸及房屋局副局長
邱誠武先生, JP

運輸及房屋局副秘書長(運輸)1
潘婷婷女士, JP

運輸及房屋局首席助理秘書長(運輸)3
王明慧女士

路政署署長
劉家強先生, JP

路政署鐵路拓展處處長
陳志恩先生, JP

應邀出席人士 ： 參與議程第IV項的討論

香港鐵路有限公司
車務營運主管
李聖基先生

香港鐵路有限公司
總經理——沙中線機電工程
李子文先生

香港鐵路有限公司
項目傳訊經理
陳芳婷女士

參與議程第V項的討論

香港鐵路有限公司
總經理——高速鐵路
蔡豐松先生

香港鐵路有限公司
總經理——高速鐵路機電工程
陸永國先生

香港鐵路有限公司
副總經理——項目及物業傳訊
蘇雯潔女士

列席秘書 ： 總議會秘書(1)2
劉素儀女士

列席職員 ： 議會秘書(1)2
陳嘉瑩小姐

議會事務助理(1)2
廖小妮女士

經辦人／部門

I 通過會議紀要

(立法會CB(1)312/13-14號文件——2013年10月25日會議的紀要)

2013年10月25日會議的紀要獲確認通過。

II 自上次會議後發出的資料文件

(立法會CB(1)1701/12-13(01)號文件——立法會議員於2013年6月6日與南區區議會議員舉行會議及午餐聚會後就南港島線(西段)發展事宜作出轉介的文件

時間	發言者	主題	需要採取的行動
		(b) 為令乘客更安全(特別是在雨天)，港鐵公司應考慮在只有部分地方設置上蓋或完全不設上蓋的車站，延長月台上蓋；及 (c) 推行月台安全措施並不足夠，港鐵公司應徵詢顧問意見。 港鐵公司回應時解釋： (a) 乘客安全至為重要，因此港鐵公司已投入足夠資源，改善月台安全，例如安排月台助理協助控制人流及維持秩序；及 (b) 港鐵公司會密切監察有關情況，日後亦會繼續改善鐵路安全。	
議程第V項 —— 廣深港高速鐵路(下稱"高鐵")香港段的工程進展及財政狀況			
011025－011412	主席 政府當局	政府當局向委員簡介高鐵香港段的工程進展及財政狀況。	
011413－012706	主席 港鐵公司	港鐵公司借助電腦投影片[立法會CB(1)392/13-14(02)號文件]，簡介高鐵香港段的工程進展。	
012707－012809	主席 政府當局	政府當局表示，高鐵香港段的建造工程預計如期在2015年完成。之後，預計港鐵公司需時數個月，就高鐵香港段進行多項測試和試運行，檢驗鐵路營運狀況，並經相關政府部門如機電工程署(下稱"機電署")批准後，才可通車。	
012810－013437	主席 盧偉國議員 港鐵公司	盧偉國議員詢問： (a) 高鐵項目勞工短缺的問題(尤其是人力需求會否在2013及2014年達至高峰的問題)及此事對工程進展造成的影響；以及有關高鐵工程段於深圳的挖掘工程在招聘人手方面有否遇到任何困難；及 (b) 就高鐵香港段相關承建商根據補充勞工計劃申請輸入勞工而言，有關審批情況的資料。	

時間	發言者	主題	需要採取的行動
014832－015610	主席 政府當局 港鐵公司	主席詢問： (a) 高鐵跨境段的工程已落後數月，港鐵公司會落實甚麼措施，追上擬議時間表； (b) 高鐵香港段進行各項測試和試運行的時間表為何；及 (c) 高鐵香港段及內地段信號系統的採購工作的最新進展，以及上述系統的銜接問題。 政府當局回應時表示： (a) 除了跨境段外，高鐵餘下的香港段部分建造工程亦落後於時間表，政府當局因而採取了不同措施，務求追上工程時間表；及 (b) 根據經驗，一般需時6至9個月進行各項測試及試行，以確保鐵路服務安全和可靠。 港鐵公司解釋： (a) 高鐵香港段及內地段的信號系統均應符合國家鐵路運作標準，即與歐洲列車控制系統相若的中國列車控制系統；及 (b) 進行的測試及試行不只涉及高鐵香港段，亦包括通往廣州的路段。	
015611－020333	主席 鍾樹根議員 政府當局 港鐵公司	鍾樹根議員提出下列問題： (a) 香港段及內地段的高鐵列車在功能及操作安全方面有何分別；及 (b) 香港段與內地段的信號系統如何協調。 主席繼而引述中國的溫州事故，並關注到如何監控高鐵香港段及內地段信號系統的質素。	

Annex 4.2

Extract of Notes of Project Coordination Meeting on 18 March 2014

Express Rail Link (XRL)

Notes of RDO-MTR Coordination Meeting 122

Present	**RDO**			
	HC Tam	Robert Chan	Sharon Wu	Jason Leung
	HY Szeto	Tony Leung	Frank Tse	Godfrey Ho
	MTR			
	Antonio Choi	Simon Tang	Tommy Lam	Bill Clowes
	Simon Mui	Mark Lomas	Samuel Chan	Richard Kwan
	Augustine Li	Wilson Wong	CH Chan	WC Fung
	Daphne Kee			

Date 18 March 2014
Time 16:30 to 17:30
Venue Room 613, RDO Ho man Tin Office

Item	Description	Action
1.0	**Amendment to last meeting notes**	
	Nil	
2.0	**Gazette / Land Resumption**	
2.1	Regarding the Mai Po drainage, MTR reported that Profit Point and New Markets had signed the consent letters and were arranging their registration at the Land Registry. RDO urged MTR to follow up closely with the lot owners to obtain a copy of the registered letters. Direct application was made to EPD and EP was expected to be issued in May 2014.	MTR
2.2	The revised draft gazettal plans for the proposed scheme amendments under s.7 of Cap 519 were forwarded to THB for further comment. It was currently being planned to be gazetted in April 2014.	MTR/RDO
3.0	**Design Issues**	
3.1	The draft interim paper on Phased Implementation of WKT was sent to RDO for comment on 4 March 2014.	MTR/RDO
3.2	RDO had secured DLO/TW&KT's agreement to take over the future maintenance of the compensatory trees at Ha Fa Shan and submitted the application for the temporary allocation of the site for tree planting.	KIV
3.3	A meeting was held with LCSD regarding the re-instatement of Nam Cheong Park. LCSD confirmed that a toilet and a park office would be required as part of the re-provision while some other facilities could be deleted. LCSD had agreed to provide the relevant details to MTR. MTR would prepare an estimate for the works involved and the	MTR/RDO

Item	Description	Action
	blasting work for 810A. The extension would cover the whole XRL project. While RDO had no comment on the proposed extension of services, MTR was reminded to include an escape clause on early termination of the service if the service was no longer needed before August 2015. MTR would brief RDO on the blasting proposal when ready.	
8.0	**Programme**	
8.1	The project is targeted for completion in year 2015. MTR was currently reviewing and updating the latest programme situation and would present to RDO on 7 May 2014.	MTR
9.0	**AOB**	
	Nil	
10.0	**Next Meeting**	

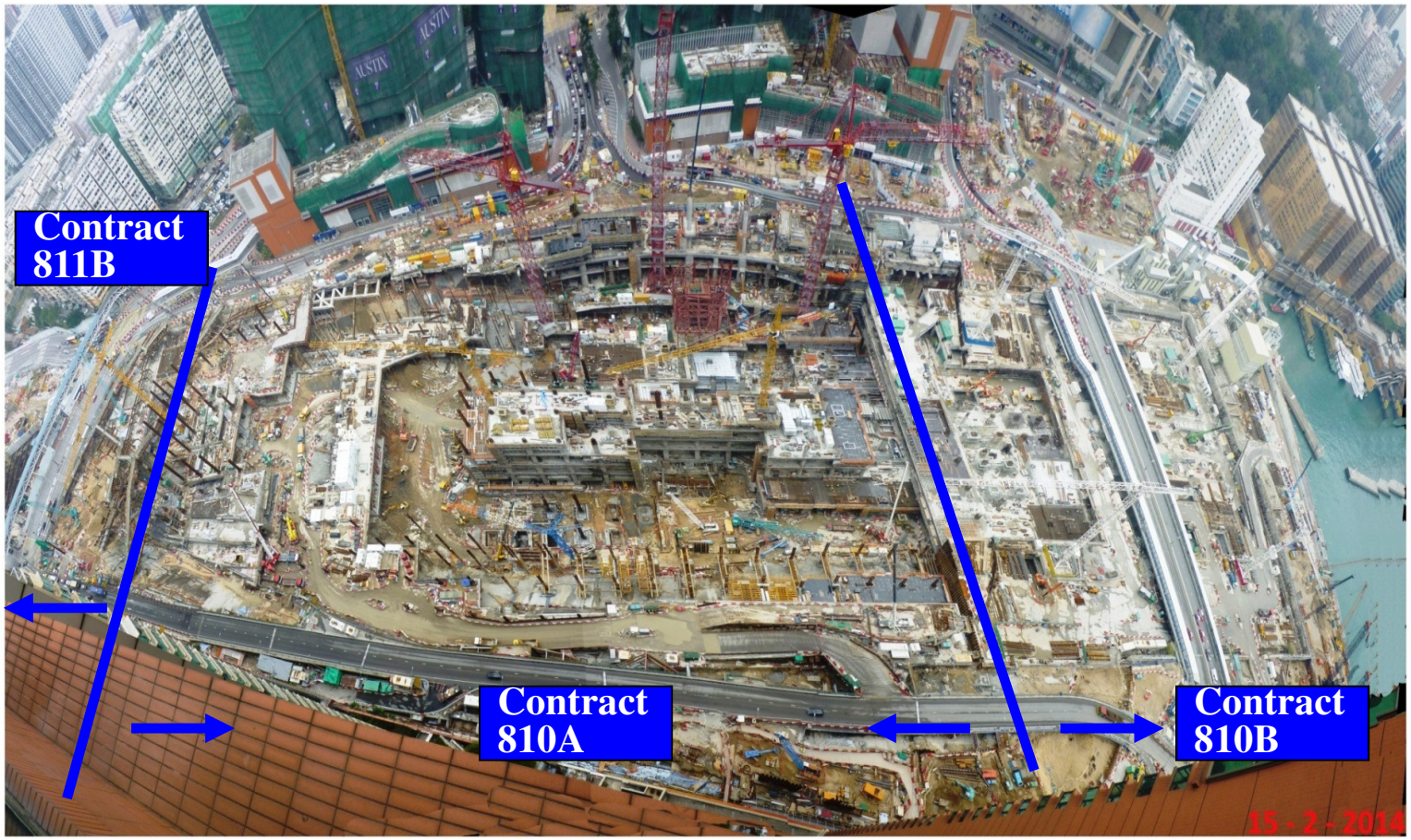
Date	22 Apr 2014 (Tue)
Time	16:30 to 18:00
Venue	Conference Room, L7 MTR Kam Tin Office

Annex 5.1

Overall View of the
Contract 810A Site

Annex 5.1

Overall View of the Contract 810 A Site



Annex 5.2

Road Network around

Contract 810A Site

Annex 5.2

Road Network around Contract 810A Site

Complicated Temporary Traffic Management Scheme implemented at:-

- **Jordan Road**
- **Austin Road West**
- **Lin Cheung Road**

To facilitate WKT excavation and underpass construction works

Annex 5.3

Extract of the Monthly Progress Report by the M&V Consultant for the month September 2012

from NTM site
iv) Contract 825 - the construction noise near Chuk Yau Road
v) Contract 810A - the splashed wastewater to the open area of the residential properties

4. Major environmental issue related XRL Project was recorded in this reporting period:

- Application of VEP was submitted to EPD on 28 Sept 2012 covering three variations:
  - Operation of CBP at WKT
  - SSS Operational Noise
  - Handover of To Kau Wan Works Area
- The two JV contractors of 811B were convicted on 6/9/2012 of breaching of NCO in Dec 2011.

Mitigation measures, in accordance with the Event and Action Plan of the Environmental Monitoring and Audit (EM&A) manual, were undertaken by the respective contractors to minimise the impacts to public. Such dust measures include covering of stockpile and protection of temporary soil slopes to mitigate the amount of dust. Such airborne construction noise monitoring should be conducted in accordance with EM&A Manual to monitor the airborne noise impact and using noise enclosure or noise insulating cover to cover the mucking out points.

4.4.3 Site Visit Observations

Observations made by our site monitoring team during their September site visits are presented in the following subsections.

4.4.3.1 Contract 801 – Tree Transplanting

Nursery sites not visited during this period.

4.4.3.2 Contract 810A - West Kowloon Terminus Station North

Excavation continuing and has reached B5 level, but below target due to logistic and barging problems. Total excavation to date is 435,000m3 out of 1,632,000m3 (about 27%)

Two pours of B4 slab completed, rebar fixing for the third bay pour in progress, about 26% complete by volume of concrete placed.

Taxi lay-by area at east side about 67% complete by volume of concrete placed.

Top down excavation to B2 level on the east side was in progress.

Sheet piling for Kowloon subway is complete.

Sheet pile water cut off wall at west of site was substantially complete.

Various works associated with Lin Cheung Road temporary traffic deck.

Concrete batching plant undergoing T&C and rebar factory erection was in progress.

4.4.3.3 Contract 810B - West Kowloon Terminus Station South

Bulk excavation to B2 level was substantially complete and had commenced to B3 level. Total excavation in 810B area is 714,000 out of 1,383,000 (about 52%)

Breaking out existing Jordan Road surface in area handed over by 811B

B1 and B2 slab construction continuing with 36 (33) bays B1 slab cast (about 89%) and 27 (25) bays of B2 slab cast (about 68%).

Concreting of 224 short columns between B1 and B2 in progress, 78 No. completed, about 35% complete.

Construction of bored piles for seawater cooling structure.

Sheetpiling and installation of king posts for Lin Cheung Road/Austin Road West underpass.

Road works and utilities diversion works for Austin Road West (west) diversion were underway.
Contract 811A - West Kowloon Terminus Approach Tunnel North

North cofferdam
TBM retrieval shaft excavated to formation and blinding concrete commenced. Mid section excavated to formation below T6 in progress. South section excavation to T5 in progress

South cofferdam
Excavated to T4 east of WRL, strutting completed. Excavation to T4 west of WRL on hold, installation of additional raking struts to west D-wall and modification to temporary road bridge bearings in progress.

Mechanical excavation under WRL from east side has exposed three barrettes which appear to be in good condition.

4.4.3.4 Contract 811B - West Kowloon Terminus Approach Tunnel South

Jordan Road north flip implemented on 16 September and area south of existing Jordan Road handed over to 810A.

Removal of two existing bored piles completed at east end of culvert JR.

Excavation and ELS for two new DSD culverts in progress.

Rebar installation for north east corner bay of top down slab.

D-walling in existing Jordan Road.

Annex 5.4

Diagram showing the location of the failed slope and the flood water path

Diagram showing the location of the failed slope and the flood water path

Photo 1

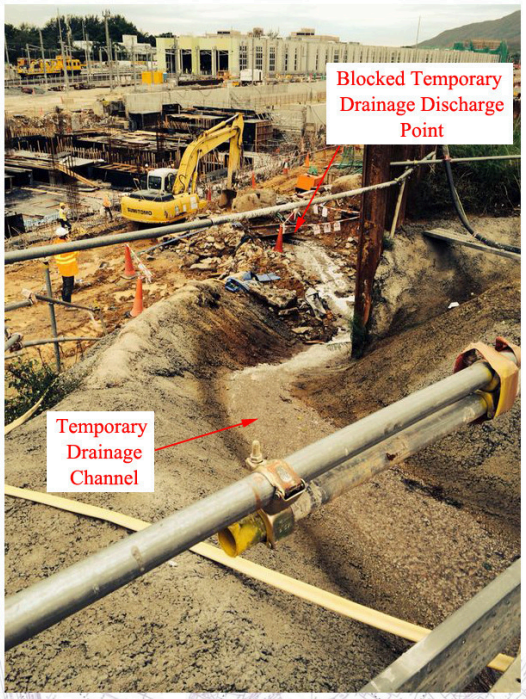
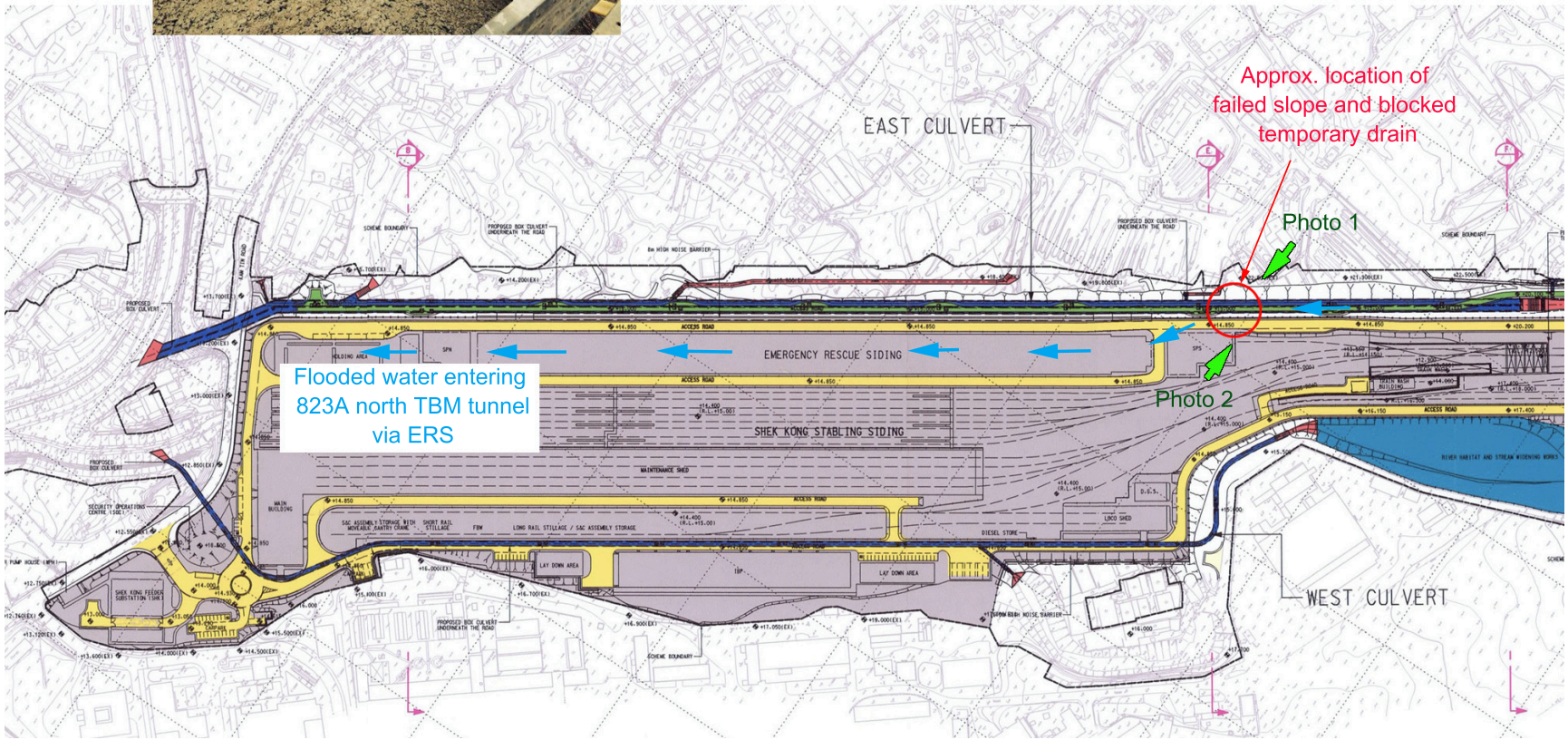


Photo 2



Annex 5.5

Photo showing the water mark left behind within the flooded tunnels

Photo showing the water mark left behind within the flooded tunnels

Annex D

List of major contracts[1] awarded

Civil contracts

#	Contract No.	Contract Title	Contractor	Awarded Contract Sum ($ million)	Award Date
1.	802	Nam Cheong Property Foundation Removal / Reprovisioning	Hsin Chong Construction Co. Ltd.	333.89	27 Jan 2010
2.	805	Sham Mong Road Obstruction Removal	Paul Y Construction Ltd.	159.85	27 Jan 2010
3.	820	Mei Lai Road to Hoi Ting Road Tunnels	Dragages - Bouygues JV	3,668.90	3 May 2010
4.	821	Shek Yam to Mei Lai Road Tunnels	Dragages - Bouygues JV	1,383.90	12 Jul 2010
5.	822	Tse Uk Tsuen to Shek Yam Tunnels	Leighton Contractors (Asia) Ltd.	3,235.35	10 Mar 2010
6.	823A	Tai Kong Po to Tse Uk Tsuen Tunnels	Maeda – China State JV	1,502.49	12 Jul 2010
7.	823B	Shek Kong Stabling Sidings and Emergency Rescue Siding	Maeda – China State JV	3,218.25	20 Oct 2010
8.	824	Ngau Tam Mei to Tai Kong Po Tunnels	Kier - Kaden - OSSA JV	1,514.86	13 Aug 2010
9.	825	Mai Po to Ngua Tam Mei Tunnels	Penta - Ocean Construction Co. Ltd.	1,683.62	27 Jan 2010
10.	826	Huanggang to Mai Po Tunnels	CRCC-HC-CR15G JV	1,690.87	10 Mar 2010
11.	803A	WKT Diaphragm Walls (Site A)	Bachy Soletanche Group Ltd.	461.24	27 Jan 2010
12.	803B	WKT Piling (Site A - North)	Tysan Foundation Ltd.	497.35	10 Mar 2010
13.	803C	WKT Piles (Site A - South)	Vibro - Chun Wo JV	321.21	27 Jan 2010
14.	803D	WKT Diaphragm Walls and Piles (WKCD)	Bachy Soletanche Group Ltd.	819.05	27 Jan 2010

[1] Major contract refers to the awarded contract with the contract sum value more than $50 million.

15.	810A	West Kowloon Terminus Station North	Gammon–Leighton JV	8,910.36	19 Oct 2011
16.	810B	West Kowloon Terminus Station South	Laing O'Rourke Construction - Hsin Chong - Paul Y JV	3,320.62	12 Jan 2011
17.	811A	WKT Approach Tunnel - North	Bachy Soletanche – Laing O'Rourke JV	1,039.77	3 May 2010
18.	811B	WKT Approach Tunnel - South	Gammon–Leighton JV	2,883.25	13 Aug 2010
19.	815A	Supply of Metal Doors and Frames including Ironmongery	The Jardine Engineering Corporation Ltd.	99.36	9 May 2012
20.	815F	Public Toilet Fit-out Works for West Kowloon Terminus	Wan Chung Construction Ltd.	53.10	9 Sep 2013

E&M contracts

#	Contract No.	Contract Title	Contractor	Awarded Contract Sum ($ million)	Award Date
1.	816A	WKT - Environmental Control System	Shinryo Corporation	782.78	9 Dec 2011
2.	816B	WKT - Building Services Control System	Johnson Controls Hong Kong Ltd.	59.61	9 Dec 2011
3.	816C	WKT - Electrical Installation	Shinryo Corporation	549.63	9 Dec 2011
4.	816D	WKT - Fire Services, Plumbing & Drainage	Leighton-Chubb E&M JV	663.64	9 Dec 2011
5.	830	Trackwork and Overhead Line System	Chun Wo – CRGL – QR JV	1,168.66	6 Jul 2011
6.	840	Rolling Stock	Qingdao Sifang Co. Ltd.	1,744.02	9 Mar 2012
7.	841A	Signalling System - Trackside Equipment	Beijing HollySys Co. Ltd.	307.82	9 Mar 2012
8.	841B	Signalling System - Trainborne Equipment	Beijing HollySys Co. Ltd.	182.07	9 Mar 2012
9.	843	Tunnel Environmental Control System	GAS JV	259.85	3 May 2011
10.	846	Trackside Auxiliaries	Shinryo Corporation	294.65	10 Aug 2011
11.	847	Lifts	KONE Elevator (HK) Ltd.	175.12	6 Sep 2011

#	Contract No.	Contract Title	Contractor	Awarded Contract Sum ($ million)	Award Date
12.	848	Escalators & Moving Walkways	Thyssenkrupp Elevator (HK) Ltd.	90.65	6 Sep 2011
13.	849	Radio Communications System	GTECH-China ITS (Holdings) Co. Ltd. JV	243.90	19 Oct 2011
14.	850	Passenger Mobile Communication System	Comba Telecom Ltd.	105.33	12 Dec 2012
15.	851	Fixed Communications System	Siemens Ltd.	273.14	19 Oct 2011
16.	852	Ticketing System	Nuctech Company Ltd.	165.66	16 Apr 2012
17.	853	Main Control System	Beijing HollySys Co. Ltd.	65.60	8 Nov 2011
18.	855	Building Services for Tunnel Ventilation Buildings and Emergency Rescue Siding	ATAL Engineering Ltd.	297.40	12 Jan 2011
19.	856	Building Services for Shek Kong Stabling Sidings	ATAL Engineering Ltd.	140.41	1 Feb 2011
20.	861A	Locomotives & Flat Wagons	Jiangsu KTK Locomotive & Rolling Stock Co. Ltd.	78.29	13 Mar 2012

For information
16 April 2010

Legislative Council Panel on Transport
Subcommittee on Matters Relating to Railways

Government's Monitoring and Reporting on the Construction of the Hong Kong Section of Guangzhou-Shenzhen-Hong Kong Express Rail Link

Introduction

This Paper briefs Members on the Government's monitoring mechanism on the construction of the Hong Kong section of the Guangzhou–Shenzhen– Hong Kong Express Rail Link (XRL) and the proposal of regular reporting to the Legislative Council (LegCo) on the XRL project.

Background

2. The Hong Kong section of the XRL is an express rail connecting Hong Kong with Shenzhen, Dongguan, and Guangzhou and will form part of the national high-speed rail network. Following the approval of the Finance Committee of the LegCo on the funding for construction of the railway and non-railway works of the Hong Kong section of the XRL on 16 January 2010, Government entered into an entrustment agreement with the MTR Corporation Limited (MTRCL) on 26 January 2010 for the construction and commissioning of the XRL project. Construction works then started in end January 2010 for completion in 2015.

Monitoring Regime for the Implementation of the XRL Project

3. Under the entrustment agreement, the MTRCL is responsible for the overall management of the project. In doing so, the MTRCL has to comply with its own management systems and procedures. The MTRCL also has the

obligation to provide any information concerning any matters relating to the XRL project as requested by the Government. The Government spares no effort in monitoring the works of MTRCL to ensure that the implementation of the project is within the approved project estimate, of good quality and on schedule.

Project Supervision Committee

4. The Director of Highways, being the controlling officer responsible for the XRL project, leads a high-level inter-departmental Project Supervision Committee (PSC). The Committee holds monthly meetings with the MTRCL and the related Government departments to review project progress, monitor procurement activities, post tender award cost control and resolution of contractual claims. The PSC also provides steer on any matters that would affect the progress of the XRL project.

5. To support and complement the PSC's effort, the Highways Department (HyD) inserts various check points into the MTRCL's relevant work processes so that issues of potential concern can be flagged up and appropriately resolved at an early stage.

Check Points in the MTRCL's Work Processes

(a) Tendering procedure

6. The MTRCL engages services from consultants, contractors and suppliers for the XRL project by means of a four-stage process, which includes expression of interest, pre-qualification for shortlisting of tenderers, tendering and tender assessment. In general, the Procurement Team of the MTRCL undergoes this four-stage process before making recommendations for tender award. The Team submits recommendations for approval of the Divisional Director, the Tender Board, or the MTRCL Board depending on the tender sum.

7. The procurement and tendering procedures of the MTRCL comply with the provisions of the World Trade Organisation's Agreement on Government Procurement. The same procedures also apply to the contracts relating to the Hong Kong section of the XRL project, including those that have been tendered.

8. Representatives of the HyD, normally at directorate level, attend tender readiness presentations made by the Procurement Team and all meetings of the Procurement Team and the Executive Tender Panel concerning procurement of works and services for the XRL project. Where a major procurement decision is to be made by the MTRCL Board, the Director of Highways participates in the relevant meeting of MTRCL's Executive Committee that makes recommendations to the Board.

(b) Project management

9. The MTRCL holds monthly project report meetings to monitor the progress of the XRL project. Representatives from the HyD attend such meetings. The MTRCL is also required to submit relevant information to the HyD. Upon request, the MTRCL will arrange briefings for the HyD and/or other Government departments on issues that may have bearing on the cost, quality or progress of the works.

(c) Cost and budget control mechanism

10. The MTRCL has built-in mechanism that enables and encourages cost saving initiatives. During the tendering process, tenderers are allowed to submit alternative proposal which may achieve better performance and/or at lower costs. During the course of construction, the MTRCL, its contractors, suppliers and the relevant government departments conduct value engineering sessions to identify and assess opportunities that can save cost while delivering the same or even better values. These processes, in which HyD representatives participate, help bring down the overall project cost of the Hong Kong section of the XRL.

11. The MTRCL convenes cost control meetings to review the financial situation of the constituent consultancies, construction contracts and the XRL project as a whole. Representatives from the HyD attend these meetings. The MTRCL has also set up a Project Control Group to scrutinize the assessment of variations and claims arising from the contracts of the XRL project. The HyD representatives, at directorate level, attend such meetings to provide comments and reflect views of the Government.

External monitoring and verification

12. In view of the scale of the XRL project, the HyD will also employ an external consultant to assist in the monitoring work and undertake regular audits to verify the MTRCL's compliance with its obligations under the entrustment agreement with Government. The monitoring and verification exercise is not limited to the work of the MTRCL, but also includes that of the consultants, contractors or agents employed by the MTRCL for the XRL project. Moreover, the HyD consultant will identify and advise the HyD any potential risk regarding the implementation of the XRL project and propose appropriate mitigation measures. This would help ensure that the XRL project will meet the required standards and will be completed on schedule and within budget.

Reporting on Progress and Finance of the XRL Project

13. When seeking the approval of the LegCo Finance Committee for the funding applications for the railway and non-railway works of the XRL project in January 2010, the Government undertook to report regularly to the Subcommittee on Matters Relating to Railways (the Subcommittee) of the Panel on Transport of the LegCo on the construction of the Hong Kong section of the XRL.

14. We note that the Government reported to the LegCo regularly on the progress of the Airport Core Programme (ACP) projects to enable LegCo to keep track of the large scale projects. Members generally felt that this was an effective monitoring arrangement. We propose that the reporting framework used for the ACP projects be adopted for the purpose of reporting to the Subcommittee on the XRL project. A copy of the ACP report for the period

from July to September 1997 is enclosed at **Appendix** for reference. Similar to the ACP reports, we propose that the XRL reports should cover the progress and the financial position of the construction of the XRL project. Major items to be covered by the XRL reports are set out below.

15. The ACP comprised a wide range of projects, covering the airport, highways, railways, tunnels, reclamation and new town development, implemented by various parties and funded in different ways. The ACP reports provided updates on the progress of individual major projects, including updated cost estimates, funding and financing positions, and claims. The XRL project is one single rail project under the public works programme. It comprises mainly tunnel and terminus construction and the ancillary railway facilities and road works. To enhance transparency and provide the Subcommittee with a more in-depth update, we propose to divide the XRL project into three major components, namely –

(a) the railway tunnels, including the ancillary railway facilities;

(b) the West Kowloon Terminus, including the road works and pedestrian links in the nearby area; and

(c) system-wide electrical and mechanical works, including rolling stock.

16. To enable Members to keep track of the progress of the XRL project to ensure timely completion, we will report the works done and major contracts[1] awarded for each major project component during the reporting period as well as the planned works and the schedule of major contracts to be awarded in the next reporting period. The report will also cover the progress of major pre-construction preparatory work (such as land clearance, condition surveys for buildings along the railway alignment, and important temporary traffic arrangements), as well as major interface issues (such as traffic impact in affected areas due to construction works and coordination with related projects).

[1] Major contracts with contract sum exceeding HK$50 million will be reported to the Subcommittee. Other contracts will be reported collectively.

As to the financial situation of the XRL, we will report the expenditure position and contractual claims of each major project component during the reporting period.

17. As the XRL project is fully publicly-funded with a narrower scope than the ACP, its project management is expected to be less complicated. We consider it appropriate to update the Subcommittee on the construction of the XRL project at six-month intervals.

18. Subject to Members' views, we propose that the first report should cover the period between 16 January 2010, when the Finance Committee approved the project funding, and 30 June 2010. Subsequent reports will cover six month periods ending 31 December and 30 June of the future years until the high-speed railway is commissioned.

Transport and Housing Bureau
April 2010

For information **FCRI(97-98)31**

NOTE FOR FINANCE COMMITTEE

Quarterly Report on Progress, Financing, Cost Estimate, Funding and Claims of the Airport Core Programme Projects
(July to September 1997)

INTRODUCTION

This is the thirteenth quarterly report on the Airport Core Programme (ACP) projects for the Finance Committee, and covers the period July to September 1997. A summary is at Enclosure 1 and the full report is at Enclosure 2. The ACP claims summary is at Enclosure 3.

Encl. 1
Encls. 2&3

2. Subsequent to the issue of the last quarterly report in August 1997, we have completed a review of the cost estimates for the ACP. Principally because of rigorous cost control efforts of the Government, the estimated net expenditure for government ACP projects has been reduced from $50,650 million by $1,042 million to **$49,608 million**. While the cost estimates for the new airport, Airport Railway (AR) and Western Harbour Crossing remain unchanged, the adjustments on the part of government projects have reduced the overall ACP cost estimates from $156,364 million to **$155,322 million**.

3. We would be happy to give a more detailed briefing on the report, and to answer questions, if Members so desire.

OVERALL PROGRESS OF THE ACP

4. As at 30 September 1997, the overall ACP is approximately 90% complete and we have completed 99% of the government ACP works. So far, 181 major ACP contracts have been awarded by the Government [92], the Airport Authority (AA) [57], the Mass Transit Railway Corporation (MTRC) [31] and the Western Harbour Crossing franchisee [1], at a total value of $96,361 million.

/5. .....

5. The AA's works for the new airport and the AR works were both 89% complete as at 30 September 1997, and are on course to meet their respective target opening dates of April and June 1998. Preparatory work for new airport and AR opening has now entered a critical stage. Efforts are being made by all concerned to ensure that the works programme as well as all the preparation work, such as systems, testing and commissioning, training and trials, etc. that are required for airport and AR opening will be completed on schedule.

UPDATED COST ESTIMATES OF THE ACP

6. The ACP budget has been reduced to **$155,322 million** as a result of the reduction in estimated expenditure for government ACP projects from $50,650 million to $49,608 million. The cost estimates of AA's share of the new airport project and of the AR remain within the estimates of $49,787 million (based on April 1998 opening) and $34,000 million (based on June 1998 opening) respectively.

7. The net government ACP budget has been reduced by $1,042 million primarily because of savings identified in Government Facilities at the New Airport ($488 million), Tung Chung Development Phase 1 ($326 million), Lantau Link ($107 million), Route 3 ($303 million), West Kowloon Reclamation ($492 million) and Utilities and Others projects ($109 million). These gross savings of $1,825 million from project budgets less the reductions of $783 million in the reimbursements from AA and MTRC for the new airport and AR related projects result in a net saving of $1,042 million.

8. As for the West Kowloon Reclamation (WKR), while individual works item under the project (WKR Hinterland Drainage Package 1) will require an additional funding of $35 million, we have been able to identify a net saving of $492 million for the project as a whole. This comprises $242 million related to works under four WKR works items and $250 million from land resumption and compensation expenditure.

9. There is a reduction of $747 million in the reimbursement from the MTRC due to the setting up of advance accounts so that some works originally intended to be temporarily funded by Capital Works Reserve Fund project contingencies have been directly funded by the MTRC. The reduction of $36 million in the reimbursement from the AA is due to the decrease in the estimate for North Lantau Refuse Transfer Station.

/FUNDING .....

FUNDING POSITION OF THE ACP

10. The Finance Committee has so far approved a net total of $49,897 million for government ACP projects. This represents 101% of the revised project estimates. As at 30 September 1997, the Administration had committed $45,342 million, or 91% of the project estimate. Of this, we had spent $43,790 million or 88% of the project estimate. We intend to reduce the amount of funds approved by the Finance Committee for various Public Works Project items to reflect the revised estimates. The revised figures will be incorporated in future quarterly reports.

11. The Finance Committee has approved an equity commitment of $36,648 million for the new airport. As at 30 September 1997, the AA had committed $42,048 million, or 84% of the project estimate. Of this, the AA had expended $40,502 million, or 81% of the project estimate.

12. The Finance Committee has approved an equity commitment of $23,700 million for the AR. As at 30 September 1997, the MTRC had committed $30,399 million, or 89% of the project estimate. Of this, the MTRC had expended $27,286 million, or 80% of the project estimate.

FINANCING OF THE NEW AIRPORT

13. On 19 September 1997, the AA signed a HK$4,000 million syndicated revolving credit facility with 32 international financial institutions. This facility is for general corporate purposes, including the financing of the second runway, the northwest concourse and new capital expenditure arising after the opening of the new airport. The facility will not be used for the opening phase of the new airport (Phase 1a), for which funding provisions have been made through a credit facility of HK$8,200 million signed by AA and a group of 48 banks in January 1996.

CLAIMS

14. As at 30 September 1997, the Government, the AA and the MTRC had received a total of 18 536 claims against 152 major ACP construction contracts. Of these, we have resolved 5 224 at a cost of $2,580 million against an original claim amount of $9,741 million. Our current assessment is that sufficient contingency remains to meet the unresolved claims, and that we will have a reasonable balance to meet changes and variation orders for the remaining contract period.

/**THE** .....

THE NEXT QUARTERLY REPORT

15. The next quarterly report covering the period October to December 1997 will be issued in January 1998.

New Airport Projects Co-ordination Office
Works Bureau
November 1997

Enclosure 2

ACP QUARTERLY REPORT July - September 1997

Quarterly Review

As at 30 September, we had completed approximately 90% of the ACP, with government ACP works 99% completed. 181 major ACP contracts at a total cost of approximately $96 billion had been awarded by Government (92), AA (57), MTRC (31) and Western Harbour Tunnel Company Ltd (1). The list of major ACP contracts awarded so far is at Annex I and the tender schedule for the next quarter ending 31 December 1997 is at Annex II. A list of countries, indicating the extent of their involvement in major ACP contracts awarded, is at Annex III.

The New Airport
AA Works

The AA works were approximately 89% complete.

Final fixings for the roof membrane of the Passenger Terminal Building (PTB) were substantially complete except for those at the northwest and southwest concourses. Clerestory gasket installation was complete in the processing terminal, north and south concourses and the east hall. Acceleration measures have been taken by the superstructure contractor to meet the revised target completion date by December 1997. Fit-out works continued on all fronts, and some critical items would be airfreighted to recover previous slippages. Placement of the

granite hard flooring in the public areas was 78% complete. Fitout works for the landlord areas, public toilets, fixed link bridges (FLBs) and government areas continued.

Primary and secondary steelwork for 37 out of the 38 FLBs has been completed, with 34 installed with cladding panels. All 76 aircraft loading bridges have been delivered to site, out of which 52 have been erected and 36 pre-commissioned.

Overall, the PTB building services contract was 89% complete, with installation 84% complete. Acceleration measures have been taken by the contractor to meet target substantial completion by mid-January 1998. Works continued in the communication rooms, FLBs and internal fit-out works areas.

Works continued on the specialist contracts for the automated people mover (APM), lifts and escalators, fixed ground power and baggage handling system. Test running for APM vehicles commenced in August following successful inspection by the Hong Kong Railway Inspectorate. Overall installation of the APM was 94% complete. Installation of 48 out of the 54 moving walkways was substantially complete, with testing and commissioning 5% complete. Lift installation was 88% complete with testing and commissioning 25% complete. Work on installation of 57 out of the 61 escalators continued with overall installation 97% complete and testing and commissioning 3%

complete. Baggage handling conveyor works continued on programme and was over 95% complete. Computers have been installed in the baggage control room and software testing on site has commenced.

As for special systems contracts, acceleration measures have been implemented to achieve the target programme, with special attention paid to potential problem areas, including voice and data cabling, flight information system, fixed communication system and systems integration programme.

Progress on the Ground Transportation Centre (GTC) is improving. The MTRC and AA were working closely with a view to providing timely access to plant and communications rooms within the station for commencement of AR system contracts. Roof completion was targeted for mid October to allow MTRC critical access to the departures level trackbed and overhead catenary and platform screen door brackets.

The airfield works were proceeding with asphalt base and wearing course placement on the crossfield and northern taxiways. The cargo apron was complete. Pavement quality concrete and block paving works continued in the apron areas surrounding the PTB. Over 83% of pavement quality concrete has been laid. Laying of block paving was over 41% complete. Pre-commissioning of the airfield ground lighting has commenced. High mast lighting erection was complete at the cargo

apron, and continued at the PTB apron with 82 out of the 122 masts erected. Pressure testing of the aviation fuel system continued. Over 70% of the fuel pipeline system covering the PTB's south, north and west aprons has been tested.

As for landside infrastructure, works concentrated on the expressway, the south perimeter and the roads in the catering south commercial area. Work on bridges and drainage works for the airport expressway and landside areas continued. The deck and retaining walls for the five southern bridges were complete and parapet works were underway. Works on the eastern airfield tunnel and approach ramps were substantially complete. Testing and commissioning of the essential electrical and mechanical equipment was sufficiently complete for tunnel opening. Outstanding work in the western tunnel was limited to completion of backfill of the south portal end wall.

Development of the Airport Operational Readiness (AOR) programme continued, covering activities that were critical for airport opening. The Airport Opening Implementation Plan was being regularly refined. AA continued to monitor the developments of its franchisees and other commercial developments.

Franchises

Progress on Hong Kong Air Cargo Terminals Ltd (HACTL)'s Superterminal 1 facility has experienced delays on the main building and

cargo systems installations. This was accentuated by the wet weather with incomplete roof covering, resulting in a six-week delay in overall terms and a 16-week delay in the box storage system. HACTL was working with the contractor on acceleration measures to meet target 50% operational capacity by end April 1998. Meanwhile, installation of warehouse cargo handling equipment continued along with assembly of cargo transfer vehicles as well as erection of the box storage system racking and stacker cranes in the north and south voids. The first zone of the west cargo storage system was fully commissioned and handed over to HACTL for system integration on 29 September.

Asia Airfreight Terminal Co Ltd's main building works continued with concrete works complete and the roof under construction. Building services work was underway on all levels. Erection of racking for the automatic storage and retrieval system as well as the pallet handling system was underway.

Installation of glazing and curtain walling continued for Cathay Pacific Catering Services (HK) Ltd's facility, with testing and commissioning of stacker cranes underway. Lifts were ready for inspection following energisation of transformers. Weather-tightness has been achieved for the LSG Lufthansa building. Installation of chillers and freezers inside the building was complete while electrical and mechanical installation

continued. As for Gate Gourmet, concrete works have been completed, blockwork and electrical & mechanical installation continued, and cladding steelwork has commenced.

Aviation fuel tank farm works at Chek Lap Kok continued. Progress of internal and external painting of the nine tanks was affected by the wet weather, but this should not have impact on the overall programme. The fuel receiving facility at the Sha Chau Jetty structure was over 84% complete. Dredging of the basin adjacent to the jetty was 60% complete.

At the Hongkong Aircraft Engineering Co Ltd's site, both halves of the hangar roof steelwork have been assembled and lifted into position. Assembly of the hangar doors has commenced.

All in all, satisfactory progress was being made by the AA and all concerned to meet the April 1998 target opening date. On PTB works, acceleration measures have been put in place to meet the target of issuing the temporary occupation permit by December 1997. Preparation for operational trials for the PTB commencing from January 1998 was well advanced. In addition, good progress was being maintained in the development of the five-phase plan for the mobilisation and move of airport operations from Kai Tak to the new airport.

Meanwhile, special attention continued to be

directed to five key areas, i.e. fit-out works at the PTB; progress of works of franchisees, particularly HACTL's cargo handling facilities; progress on various systems and software; the AOR Programme; and the recruitment and training of staff for airport opening.

Government Facilities at the New Airport

Overall, the projects were 91% complete, tracking slightly ahead of programme.

The Air Traffic Control Complex, Police Station, Microwave Station and Sub-divisional Fire Station were substantially complete. Work on building services and systems installation continued at the Government Flying Service Building and the Airmail Centre.

Installation, acceptance testing and calibration of most of the air traffic control systems were substantially complete. The Civil Aviation Site Acceptance Test was scheduled to commence in October 1997. Minor rectification work continued on the off-the-shelf simulator, aerodrome terminal information system, speech processing equipment, surveillance radars, world area forecast system data processing workstation and the aviation meteorological data processing system. Most of the postal mechanisation system equipment has been delivered to site and installation work was progressing well.

Airport Railway (AR)

Overall, the AR was 89% complete with progress generally in accordance with the project programme. While building services work at Tsing Yi Station was 30% complete, critical cable containment and cable installation to support Test Running in early 1998 were progressing well. Delay recovery measures were being implemented to meet critical access dates for system-wide contracts.

On Hong Kong Station, work on the floor finishes and ceiling works at the Airport Express Line (AEL) concourse and mezzanine floor was in progress. Finishing works and building services installation at the Hong Kong Station were 60% complete. The contractor would increase the output of these works to meet the critical access dates for system-wide contractors. As for the Central Subway, architectural finishing works have commenced following substantial completion of the reinforced concrete work. Overall, works were 86% complete.

Structure of the Kowloon Station was nearly complete, and building services work at the Tung Chung Line (TCL) level and at AEL level was 35% complete. Construction of the western elevated road was progressing well with all piers and crosshead completed. Overall, works were 82% complete.

Waterproofing work for the Olympic Station

structure was complete and system-wide works were in progress. Overall, works were 98% complete.

At the Lai King Station, deviation of the existing MTR Tsuen Wan Line (Tsuen Wan bound) was effected on 6 July 1997, following which construction of platform extension slab over the abandoned track commenced. Building work, building services installation and system-wide work continued. Overall, works were 87% complete.

Architectural finishing works for the Tsing Yi Station were in progress. Critical fibre optic cable pulling from central equipment room to all four cable termination rooms at platform was progressing well. Manpower for building services work has increased to meet the critical access dates for system-wide contractors. Overall, works were 88% complete.

Building and architectural finishing works at the Tung Chung Station were in good progress. Building services work were 78% complete. Overall, works were 95% complete.

The main and ancillary buildings at the Siu Ho Wan Depot, the depot access road bridge and associated road work were substantially complete. Building work, building services installation and system-wide work continued. Overall, works were over 98% complete.

Mitigation measures were in place to mitigate previous delays experienced in the works entrusted to the AA's Landside Infrastructure and GTC contracts. Plant rooms in the Airport Station have now been made available to MTRC's contractors, whose target was to complete the system-wide contracts by end 1997 for commencement of AR Test Running.

Tracklaying works from the Airport Station at Chek Lap Kok to the Hong Kong Station were in progress. Commissioning of the mainline test track was substantially complete. Test runs of the TCL trains in North Lantau at a speed of 135 km/hr were successfully performed in August 1997. The contractor has mobilised additional resources and plans for night works were being formulated to increase tracklaying productivity at Hong Kong Station, Kowloon Station and on Chek Lap Kok. Overall, works were 98% complete.

Signalling installation continued on schedule. Main cabling was substantially complete from the middle of Tsing Ma Bridge to just before the Airport Station, and from Olympic Station to the Lai King viaduct. The manufacturing and delivery of fans, dampers, cables, motor control centres and environmental control system control panels continued.

Overall, good progress continued to be made by MTRC towards meeting the June 1998

target commissioning date. The Kowloon Station was topped out in September; tracklaying was near completion; and the test run for the first TCL train was successfully performed in August. With the substantial completion of civil works and trackwork, emphasis was now placed on completion of the electrical and mechanical system-wide installations to allow the timely commencement of AR Test Running scheduled for early 1998.

North Lantau Expressway (NLE)

The NLE project was essentially complete with only minor remedial works outstanding.

Tung Chung Development Phase 1 (TCD)

The project was 96% complete.

Commissioning tests for the Tung Chung Pumping Station and the Siu Ho Wan Sewage Treatment Plant were complete. The Police Station was substantially complete.

Work on the Refuse Transfer Station was progressing well. The Station is expected to be operational by March 1998 to tie in with airport opening in April 1998. Design work was substantially complete, and construction of the superstructure and the marine vessel was in progress.

The Home Ownership Scheme blocks and public rental flats were complete and handover of flats to residents commenced on 21 July and 19 August respectively. Other

	facilities were being commissioned in stages to support the population intake.
Lantau Link (LL)	The LL was essentially complete. Following completion of site acceptance tests, the essential traffic control and surveillance systems and equipment were handed over to the Tsing Ma Control Area operator for operation in August 1997.
Route 3 – Kwai Chung and Tsing Yi Sections (RT3)	The RT3 project was essentially complete. Minor outstanding works and rectification of defects would be completed within the maintenance period.
West Kowloon Reclamation (WKR)	Overall the WKR was 99% complete. Hinterland drainage works in the southern and northern areas were substantially complete. The outstanding road reinstatement works were scheduled for completion by December 1997. Some of the localized ACP drains/pipes in the hinterland were behind programme. Actions have been taken by the contractors to expedite progress, which would be closely monitored. All of the ACP new roads in WKR have been opened to traffic except for the eastbound carriageway of Road SR4, which would be

completed and opened to traffic by December 1997.

West Kowloon Expressway (WKE)

The WKE project was essentially complete. Minor outstanding works would be finished within the maintenance period.

Central Reclamation Phase 1 (CWR)

Works under the reclamation contract were essentially complete. The following outstanding station-related works, which have been entrusted to the MTRC and included in the AR Hong Kong Station Contract, are expected to be completed by June 1998:

- Rumsey Street flyover extension: falsework for the first span of the bridge deck was complete; construction of columns and pilecaps continued; and casting of the first span of the deck would commence.

- Jubilee Street underpass: Stage 2 construction of the diaphragm walls and base slabs was complete; stage 3 construction has commenced.

- New bus termini: work has yet to commence.

- Footbridge FB1: construction was in good progress.

- Pumping Station: base slab has been cast; and casting of walls continued.

	• Remaining Landscape work has yet to commence.
Utilities and Others	The ACP-funded utilities (i.e. water works) were essentially complete.
Western Harbour Crossing (WHC)	The WHC was complete and opened to traffic on 30 April.

Enclosure 3

ACP Claims Summary as at 30 September 1997

Introduction

1. ACP construction contracts apportion risks involved in the construction process between the Employer and the Contractor. They must therefore contain means by which contractors may submit claims for additional money (cost claim) or time (extension of time or "EOT") or both, associated with the risks where the Employer has liability. Contractual claims are a normal and natural part of construction contracting.

2. From the inception of the ACP, the Government has aimed to set in place systems which will enable the early identification of contractual claims. Equally, we have put in place mechanisms which would allow claims to be dealt with early and to avoid, as far as possible, contractual claims turning into formal contractual disputes.

Total claims recorded against ACP

3. As shown at the Annex, the Government, the Airport Authority (AA) and the MTR Corporation (MTRC) (collectively referred to below as the Works Agents) had awarded a total of 152 major ACP construction contracts with a total award value of $89,291 million as at 30 September 1997. We have not included the contract for the Western Harbour Crossing because the franchisee is responsible for all claims on the contract.

4. The Works Agents have recorded a total of 18,536 claims against the awarded contracts since inception. Of these, the Works Agents have resolved 5,224 claims either by way of settlement or withdrawal of the claims by the contractors, leaving 13,312 unresolved claims.

Settlement of claims

5. In resolving the 5,224 claims, the Works Agents have awarded $2,580 million to the contractors. The original amount claimed was $9,741 million.

Enclosure 3
(cont'd)

Unresolved claims

6. As at end September 1997 unresolved claims for CWRF projects totalled 2,620 and the total amount claimed was $4,115 million. The estimated contingent liability for these unresolved claims stood at $863 million.

7. As at 30 September 1997 the AA had a total of 49 major construction contracts. Against these, 8,304 claims had been recorded and 7,072 remained unresolved. contractors were seeking a total of $6,003 million against such unresolved claims and the AA's estimated contingent liability stood at $1,840 million.

8. For the MTRC, the number of awarded AR contracts remained at 31 as at end September 1997. Against these, 4,620 claims had been recorded with 1,000 of them resolved. The amount claimed by contractors in respect of the 3,620 unresolved claims was $3,270 million. The MTRC's estimated contingent liability stood at $1,480 million.

9. In total, of the 13,312 unresolved claims, 10,260 are claims for cost or both cost and EOT. The contractors were, as at end September, seeking recovery of $13,388 million for these claims and the Works Agents have estimated their contingent liability against these claims at $4,183 million.

10. Current assessment by the Works Agents indicates that there is sufficient contingency within the revised estimate for the ACP projects to settle these claims while leaving a reasonable balance to meet changes and variation orders for the remaining contract period.

11. EOT claims will also be closely monitored to ensure that critical contract completion dates will remain unaffected. The Works Agents will, as a safeguard, have the right to order acceleration measures in those instances where a valid EOT claim might jeopardise a critical completion date.

12. In short, we are confident that sufficient allowance exists within the overall ACP budget to meet ACP claims requirements.

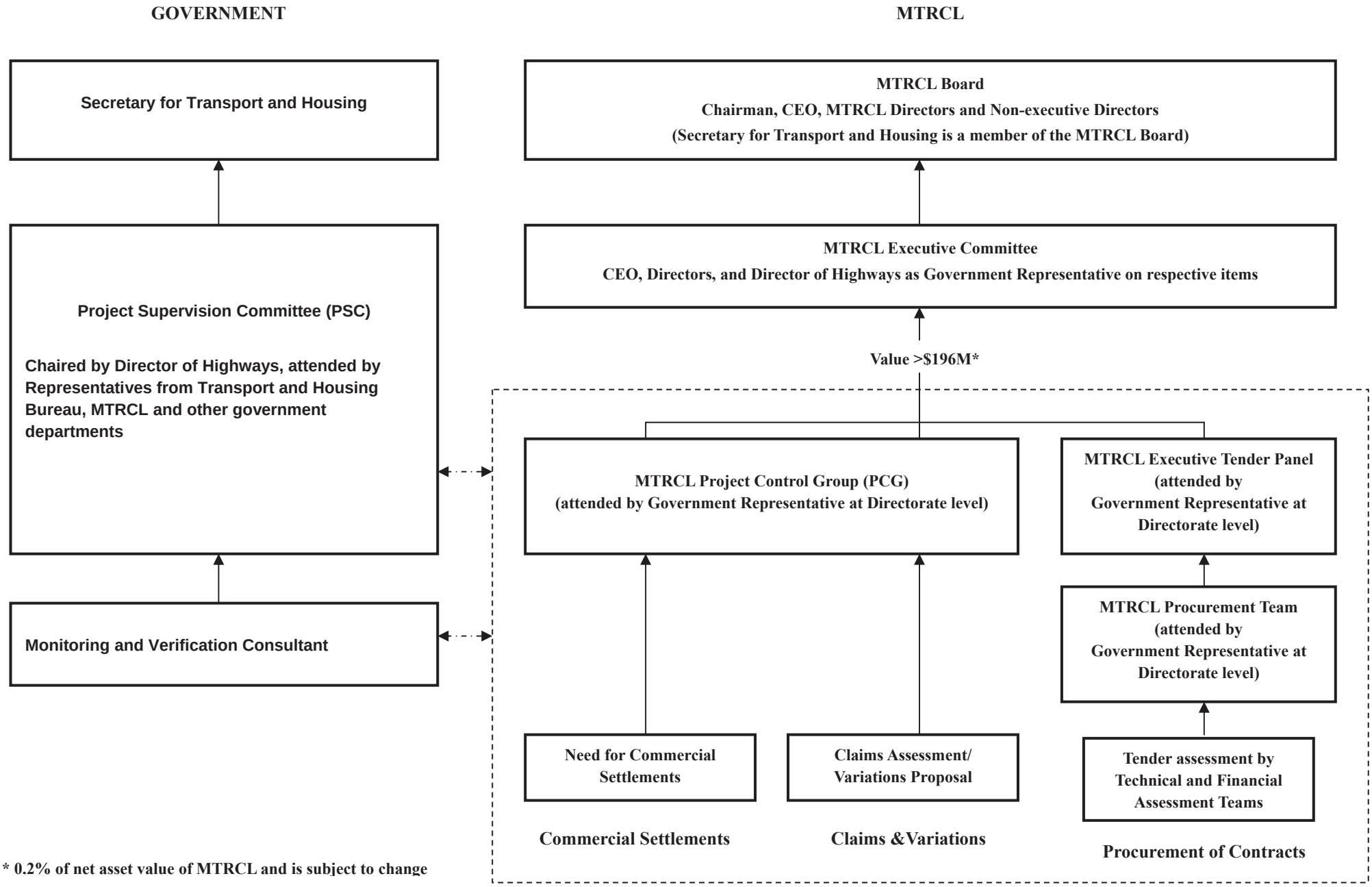
Annex

Situation on ACP Contractual Claims
(as at 30 September 1997)

ACP Project	Number	Award Value $M	Works completed [2] $M	Number	Number	Amount claimed originally $M	Amount awarded $M	Number [3]	Amount claimed $M	Estimated contingent liability[4] $M
CWRF	72	37,393	36,645	5,612	2,992	5,637	964	2,620	4,115	863
AA - CLK Airport	49	34,142	30,828	8,304	1,232	2,556	1,050	7,072	6,003	1,840
MTRC - Airport Railway	31	17,756	17,860	4,620	1000	1,548	566	3,620	3,270	1,480
TOTAL	152	89,291	85,333	18,536	5,224	9,741	2,580	13,312	13,388	4,183

Notes :
[1] Excludes non-construction contracts such as design, supply and equipment contracts.
[2] May exceed award value due to contract variations
[3] Includes rejected claims
[4] Includes interim awards

Flowchart on Government's monitoring mechanism on the construction of the Hong Kong section of the XRL Project



Annex G

Construction of the Hong Kong section of the Guangzhou-Shenzhen-Hong Kong Express Rail Link (XRL)

Chronology of Events

Date	Event
24/11/2008	The Government entered into an Entrustment Agreement with MTR Corporation Limited (MTRCL) for the design and site investigation of the XRL project.
2/12/2009-3/12/2009	The Public Works Subcommittee (PWSC) of the Legislative Council (LegCo) passed the funding applications for the Hong Kong section of XRL (LC Paper Nos. PWSC(2009-10)68 and PWSC(2009-10)69).
16/1/2010	The Finance Committee (FC) of LegCo approved the funding applications for the Hong Kong section of XRL (LC Paper No. FCR(2009-10)44).
26/1/2010	The Government entered into an Entrustment Agreement with MTRCL for the construction and commissioning of the XRL project.
26/3/2010	The 1st Project Supervision Committee (PSC) meeting was held. The Terms of Reference and membership of the PSC were endorsed. The meeting discussed the information MTRCL should include in its progress report including programme of works, financial position and labour strength.
16/4/2010	The Subcommittee on Matters related to Railways (RSC) of the Panel on Transport of LegCo discussed the Government's monitoring and reporting on the construction of the Hong Kong section of XRL.
28/4/2010	The 2nd PSC meeting was held. The meeting noted that - - the tunnel and electrical and mechanical (E&M) detailed design was on schedule; - the piling and diaphragm wall works at the West Kowloon Terminus (WKT) were gaining momentum; and - there was minor delay in civil works design and preparation of tender documents. The Chairman reminded MTRCL to bring it up to HyD as early as possible should there be any problem in the submission process.

28/5/2010	The 3rd PSC meeting was held. MTRCL reported that the overall physical progress was approximately 0.4% complete against 4.5% of time expended. MTRCL reported that, according to the progress back then, the Mainland section of the cross-boundary tunnel would likely suffer a delay of six months. HyD suggested that the issue be discussed with the relevant Mainland authorities. MTRCL stated that the WKT detailed design was progressing in full swing despite minor delay. There was also minor delay in the removal and re-provisioning of Nam Cheong Property Foundation and piling works of WKT. The modified Master Layout Plan for WKT had been approved.
10/6/2010	A meeting on the cross-boundary connecting tunnel was held with the relevant Mainland authorities. It was noted that there was some delay in the cross-boundary tunnelling works and mitigation measures should be taken. The Shenzhen side was working out solutions to ensure the commissioning of this section by mid-2015.
25/6/2010	The 4th PSC meeting was held. MTRCL reported that the overall physical progress was 0.9% complete against 1.2% planned, equivalent to a delay of about two weeks. MTRCL stated that the piling and diaphragm wall works at WKT were well underway, though a contract was six weeks behind schedule. In response to the Chairman's enquiry as to whether the six-week delay on road and utility works would adversely affect the overall programme, MTRCL said that the contractor had taken necessary actions to expedite the progress. There was also minor delay in the detailed design of WKT (progress being recovered), as well as the removal and re-provisioning of Nam Cheong Property Foundation. MTRCL also mentioned that the contractor of relevant Mainland authorities for the cross-boundary section had indicated a three-month delay. Mitigation measures were being discussed with relevant Mainland authorities.

29/6/2010	The Government submitted to LegCo RSC the first half-yearly report on the progress and financial situation of the construction of the Hong Kong section of XRL as at 30/6/2010 (LC Paper No. CB(1)2290/09-10(01)). 11 major construction contracts had been awarded. The progress of tunnel works in general was satisfactory without major difficulty so far. The foundation works of the WKT were progressing on schedule, and the detailed design of the terminus building was being finalized. Scheme design for major E&M systems was being carried out. Temporary traffic arrangements, building condition surveys in Tai Kok Tsui, land resumption in Choi Yuen Tsuen and employment opportunities were also covered in the report. At the request of members, the Administration enclosed a flowchart on the Government's monitoring mechanism in the report.
6/7/2010	LegCo RSC discussed the progress report on the Hong Kong section of the XRL project. The meeting deliberated on issues on the land resumption in Choi Yuen Tsuen and the concerns of Tai Kok Tsui residents. The Administration reported that its target was to complete the clearance of Choi Yuen Tsuen and moving out of villagers from the site in October 2010. MTRCL reported on its work with regard to the concerns of the Tai Kok Tsui residents.
9/7/2010	The Railway Development Office of Highways Department (RDO/HyD) and MTRCL held a meeting with relevant Mainland authorities to discuss, among others, the programme of the Shenzhen section of the cross-boundary tunnels.

30/7/2010	The 5th PSC meeting was held. MTRCL reported that the overall physical progress was 1.3% complete against 1.7% planned, equivalent to a delay of about three weeks. The civil tender design progress was on schedule. While the detailed architectural design was behind schedule, the situation was improving. Regarding WKT, the progress of the piling and diaphragm wall works was improving. The sewer and watermain diversion would have to be expedited to meet the scheduled diversion of Lin Cheung Road. Delay recovery measures would be taken. The tunnel works were generally on schedule, except that the tunnel obstruction removal works at Nam Cheong were in delay by about two months. MTRCL advised that delay recovery measures would be taken, and the overall completion date of the project would not be affected for the time being. It was noted that there was a three-month delay in the construction of the cross-boundary section, which would affect the works of Huanggang to Mai Po tunnels and Mai Po to Ngau Tam Mei tunnels, P-way and E&M installation. MTRCL reported a delay of about two months in the removal & re-provisioning of Nam Cheong Property Foundation under Contract 802. That said, the concerned works were not critical yet and the overall completion of the project would not be adversely affected for the time being.
8/9/2010	The 6th PSC meeting was held. MTRCL reported that the overall physical progress was 1.8% complete against 2.4% planned, equivalent to a delay of about three and a half weeks. MTRCL said that the overall physical progress was still manageable. MTRCL was closely monitoring the architectural design of WKT and resolving outstanding design issues. The piling and diaphragm wall works of WKT were in progress despite the one-month delay. The concerns about utility diversions had been addressed. MTRCL was taking measures to recover the two-month delay in the removal and re-provisioning of the Nam Cheong Property Foundation. MTRCL reported that there was further progress slippage of about five weeks in the Mainland part of the cross-boundary section.

6/10/2010	The 7th PSC meeting was held. MTRCL reported that the overall physical progress was 2.6% complete against 3.1% planned, equivalent to a delay of about three weeks. The civil/structural and E&M design of WKT was on schedule, and the progress and quality of the architectural design were being monitored. The piling and diaphragm wall works of WKT achieved satisfactory progress despite the one-month delay. MTRCL reported on the rescheduling of the scheduled traffic diversion, anticipating a delay ranging from two weeks to two months. MTRCL supplemented that it would not affect the critical path of the project for the time being. MTRCL reported that the removal and re-provisioning of Nam Cheong Property Foundation had a three-month delay.
29/10/2010	The 8th PSC meeting was held. MTRCL reported that the overall physical progress was 3.2% complete against 3.8% planned, equivalent to a delay of about three and a half weeks. The piling and diaphragm works of WKT were in progress. The progress of the sewer diversion at WKT was slow due to underground obstruction. Regarding the removal and re-provisioning of Nam Cheong Property Foundation, MTRCL undertook to work out a programme recovery plan, and anticipated that there would be no impact on the tunnel programme. MTRCL would closely monitor the progress of the works, which had been delayed for three and a half months.
26/11/2010	The 9th PSC meeting was held. MTRCL reported that the overall physical progress was 3.7% complete against 4.5% planned. MTRCL stated that the diaphragm wall defects were causing concern and actions were being taken to solve the problem. MTRCL advised that there was a one-month delay in the preparation of the tender drawings for a contract; a five-month delay in the removal and re-provisioning of Nam Cheong Property Foundation; and a one-month delay in the piling works of WKT. MTRCL would closely monitor the progress of the works. HyD requested MTRCL to develop measures to recover the delay.

28/1/2011	The 10th PSC meeting was held. MTRCL reported that the overall physical progress was 5.0% complete against 5.9% planned, equivalent to a delay of one month. MTRCL said that the diaphragm wall defects at WKT were being remedied and would not have any adverse impact on the overall project programme. MTRCL advised that there was a one-month delay in civil works design under a contract; a six-month delay in the removal and re-provisioning of Nam Cheong Property Foundation; and a two-month delay in the piling works of WKT. MTRCL would closely monitor the progress of the works, and develop measures to recover the delay in the removal and re-provisioning of Nam Cheong Property Foundation.
4/3/2011	The 11th PSC meeting was held. MTRCL reported that the overall physical progress was 5.7% complete against 6.7% planned, equivalent to a delay of about one month. MTRCL advised that there was a one-month delay in civil works design under a contract; a six-month delay in the removal and re-provisioning of Nam Cheong Property Foundation; and a two-month delay in the piling works of WKT. MTRCL reported on the slow progress of pile removal at Nam Cheong and undertook to review the works programme later. As regards the soft toe problem of the diaphragm wall at WKT, MTRCL advised that the remedial works were in progress and the situation was manageable.
14/3/2011-15/3/2011	The Administration submitted to LegCo RSC the second half-yearly report on the progress and financial situation of the construction of the Hong Kong section of XRL as at 31/12/2010 (LC Paper CB(1)1585/10-11(07)). 16 major construction contracts had been awarded. Preparatory work for tunnel excavation and construction of launching shafts for TBMs was progressing smoothly. 70% of the foundation works of WKT had been completed as scheduled. On E&M works, system design was in good progress.

25/3/2011	The 12th PSC meeting was held. MTRCL reported that the overall physical progress was 6.1% complete against 7.2% planned, equivalent to a delay of one and a half months. MTRCL advised that there was a three-month delay in the piling works of WKT; an eight-month delay in the removal and re-provisioning of Nam Cheong Property Foundation; and a three-month delay in the breakthrough to a TBM shaft. Delay recovering measures were being developed.
29/4/2011	The 13th PSC meeting was held. MTRCL reported that the overall physical progress was 7% complete against 8.1% planned, equivalent to a delay of five weeks. MTRCL said that the overall delay was still manageable. MTRCL highlighted that the removal and re-provisioning of Nam Cheong Property Foundation encountered a delay of 39 weeks. MTRCL said that the delay in other contracts was relatively minor and expected to be recovered in the coming months. MTRCL added that the additional works for the diaphragm wall at WKT were in progress.
20/5/2011	LegCo RSC discussed the progress and financial situation of the construction of the Hong Kong section of the XRL project. Members asked about the impact of the court judgment concerning the Environmental Impact Assessment (EIA) reports for the Hong Kong–Zhuhai–Macao Bridge (HZMB) local projects on the implementation of the XRL project. The Administration advised that the XRL project had entered the construction stage. The works were on schedule in accordance with the requirements set out in the approved EIA reports and the Environmental Permits issued. Members also enquired about the measures to be taken to alleviate the traffic and transport impact of construction of WKT. The Administration advised that a five-stage Temporary Traffic Management Scheme (TTMS) in the West Kowloon area was being implemented. The first and second stages of TTMS had been activated smoothly. At that time, no adverse impact on the traffic in the West Kowloon area had been observed. The Administration would continue consultation with the District Council concerned on the remaining stages of TTMS and closely monitor the traffic condition.

27/05/2011	HyD had a meeting with relevant Mainland authorities. It was noted that the works of the Hong Kong section of XRL were progressing and additional efforts were required to catch up with the delay of the cross-boundary tunnelling works.
3/6/2011	The 14th PSC meeting was held. MTRCL reported that the overall physical progress was 7.6% complete against 9.1% planned, equivalent to a delay of six weeks. MTRCL said that the progress of pile removal at Nam Cheong was still slower than the target date. It would be closely monitored so that a decision could be made as to whether the change of TBM drive should be instructed. The removal and re-provisioning of Nam Cheong Property Foundation had a delay of 44 weeks, or a delay of 10 weeks under the revised programme. The delay in other contracts was relatively minor and expected to be recovered in the coming months.
6/7/2011	The 15th PSC meeting was held. MTRCL reported that the overall physical progress was 9.0% complete against 10.1% planned, equivalent to a delay of five weeks. MTRCL said that the pile removal at Nam Cheong was still very slow and the delay in other contracts was relatively minor. MTRCL was urged to take action to expedite works.
29/7/2011	The 16th PSC meeting was held. MTRCL reported that the overall physical progress was 9.6% complete against 11% planned, equivalent to a delay of 5.3 weeks. MTRCL said that the pile removal at Nam Cheong had shown some improvement but was still lagging behind the target date. MTRCL reported on the slow progress in pile removal under the CLP building site and footbridges, and the delay in works along Lin Cheung Road. Delay recovery measures were being developed. MTRCL informed the meeting that the Mainland contractor had indicated the late arrival of the TBMs at the boundary by seven months.
30/8/2011	RDO/HyD issued a letter to MTRCL and conveyed comments on the XRL monthly progress report as at end of July 2011. On Contract 802, RDO/HyD queried the removal of the down-track H-piles by the rotator and wedge method.

23/9/2011	The 17th PSC meeting was held. MTRCL reported that the overall physical progress was 11.3% complete against 13.6% planned, equivalent to a delay of 8.4 weeks. Regarding the pile removal at Nam Cheong, MTRCL advised that he cofferdam option would not be pursued. Instead, MTRCL would adopt other delay recovery measures. The delay in the pile removal under the CLP building site and footbridges had been recovered. MTRCL anticipated that the delay caused by the unexpected high rock head at the north of Jordan Road could eventually reach seven months. With the implementation of temporary traffic diversion, the delay could be reduced to two months. MTRCL said that the delay would be up to 10 months if the Mainland contractor maintained their current tunnelling method. MTRCL undertook to resolve the problems with the Mainland contractor. The Director of Highways (DHy) requested MTRCL to closely monitor the progress.
27/9/2011	The Administration submitted the third half-yearly report on the progress and financial situation of the construction of the Hong Kong section of XRL as at 30/6/2011 (LC Paper No. CB(1)3049/10-11(01)). 21 major contracts had been awarded. For railway tunnels, excavation works for the launching shafts for TBMs were underway as scheduled and the first TBM was delivered to the site at Mai Po in June 2011 for assembly. Diaphragm wall works of the WKT were almost completed and over 90% of the piling works had been completed. Procurement of the E&M works was in good progress. The report also covered work on temporary traffic arrangements, condition surveys and community liaison in Tai Kok Tsui, public engagement and community involvement activities and employment opportunities.

28/10/2011	The 18th PSC meeting was held. MTRCL reported that the overall physical progress was 11.9% complete against 14.9% planned. MTRCL proposed to procure the second TBM for the Tai Kong Po to Tse Uk Tsuen section to recover the overall delay. HyD said that MTRCL should make sure that the use of the second TBM could recover all the time lost. MTRCL had discussed with the Transport Department the proposed temporary diversion of Jordan Road to recover the delay of at least five months. MTRCL would assess and report to HyD the extent of delay in the arrival of the TBM at the boundary from the Shenzhen side after the drive had started.
24/11/2011	The 19th PSC meeting was held. MTRCL reported that the overall physical progress was 12.4% complete against 16.2% planned. MTRCL advised that the pile removal under the CLP building site and footbridges was in good progress. MTRCL advised that further delay recovery measures would be required for the WKT approach tunnels. Regarding the diaphragm wall construction for Emergency Rescue Siding, MTRCL had taken measures to recover the delay due to high rock head, but such were not adequate to recover the delay due to late site possession. MTRCL reported that development of delay recovery measures had progressed slowly.

20/1/2012	The 20th PSC meeting was held. MTRCL reported that the overall physical progress was 14.1% complete against 19% planned. MTRCL advised that the pile removal at Nam Cheong had encountered issues arising from an old sea wall. DHy expressed concern. MTRCL reported that the drill and blast works at Huanggang were still suspended. That would likely delay the start of the TBM drive from Huanggang to the boundary by two months, and consequently the works of the Hong Kong section. MTRCL said that they had written to relevant Mainland authorities expressing concern about the tunnel construction programme of the Mainland section. The works were four months behind schedule. DHy requested that MTRCL and HyD keep monitoring the situation closely and consider reflecting the concern to relevant Mainland authorities in due course.
21/2/2012	A meeting between DHy and relevant Mainland authorities was held. It was noted that the TBM would reach the boundary in mid-2013, about six months behind schedule.
24/2/2012	The 21st PSC meeting was held. MTRCL reported that the overall physical progress was 15.7% complete against 20.8% planned. MTRCL reported that the overall site progress was about two to three months behind schedule and delay recovery measures would be deployed. DHy said that the contractors should be responsible for completing the works on time and any decision on implementing delay recovery measures with cost implications should be made with prudence. MTRCL said that the pile removal at Nam Cheong was not achieving the necessary rate to tie in with the tunnelling programme. The tunnelling progress would be further affected if the 24-hour Construction Noise Permit was not obtained as soon as possible. MTRCL advised that the Mainland contractor had rescheduled the tunnel lining completion and launch of TBM to 31 March 2012 and 10 March 2012 respectively, possibly leading to further delay. On DHy's enquiry, MTRCL said that the provision for all delay recovery measures, except those for the cross-boundary section, had been allowed for in the contingency sum.

7/3/2012	A meeting with relevant Mainland authorities was held to review the progress of the cross-boundary tunnels. Our concern about the slow progress of the cross-boundary tunnels of the Mainland section was expressed.
30/3/2012	The 22nd PSC meeting was held. MTRCL reported that the overall physical progress was 16.8% complete against 22.7% planned. MTRCL stated that the pile removal at Nam Cheong was still behind schedule. MTRCL would develop delay recovery plans with the contractors. MTRCL advised that a delay of at least four months in the launching of the first TBM for the Mainland section was likely unavoidable. MTRCL was concerned about the potential slippage of the launching of the second TBM and completion of the building protection works. MTRCL had conveyed their concern to the Mainland contractor. MTRCL said that delay recovery measures were to be agreed with the contractors in the following two months so that progress could be monitored against realistic programmes and the whole project could be completed as scheduled.
27/4/2012	The 23rd PSC meeting was held. MTRCL reported that the overall physical progress was 17.9% complete against 23.2% planned. MTRCL said that the contractors for WKT, WKT approach tunnels and Tse Uk Tsuen to Shek Yam tunnels would submit delay recovery programmes by June to ensure that the whole project could be completed as scheduled. MTRCL pointed out that any delay in the additional grouting work at Tai Kok Tsui would directly affect the tunnel drive programme. MTRCL said that, according to the Mainland contractor's programme, there would be a delay of four months regarding the cross-boundary section.

27/4/2012	The Government submitted to LegCo RSC the fourth half-yearly report on the progress and financial situation of the construction of the Hong Kong section of XRL as at 31/12/2011 (LC Paper No. CB(1)1710/11-12(01)). 32 major construction contracts had been awarded. For railway tunnels, excavation works for the launching shafts for TBMs were underway as scheduled for all tunnels. The first TBM had commenced tunnelling at the works site in Mai Po in September 2011. Diaphragm wall works and piling works of WKT had been completed and major excavation works were underway for the construction of the underground terminus. Procurement of E&M works contracts was in good progress. The report also covered work on temporary traffic arrangements, condition surveys and community liaison in Tai Kok Tsui, public engagement and community involvement activities and employment opportunities.
7/5/2012	A meeting with the relevant Mainland authorities was held to review the progress of the cross-boundary tunnels.
25/5/2012	The 24th PSC meeting was held. MTRCL reported that the overall physical progress was 18.8% complete against 24.1% planned. MTRCL said that the contractors for WKT, WKT approach tunnels and Tse Uk Tsuen to Shek Yam tunnels would submit delay recovery programmes by June to ensure that the whole project could be completed as scheduled. MTRCL advised that the grouting work at Tai Kok Tsui progressed smoothly. Regarding the Tse Uk Tsuen to Shek Yam tunnels, MTRCL advised that only two to three months out of the eight months of delay could be recovered. MTRCL reported that the cross-boundary section was still four months behind schedule.

29/6/2012	The 25th PSC meeting was held. MTRCL reported that the overall physical progress was 20.5% complete against 26.7% planned. MTRCL said that the contractors for WKT, WKT approach tunnels and Tse Uk Tsuen to Shek Yam tunnels had submitted delay recovery programmes so that the whole project could be completed as scheduled. MTRCL highlighted that works progress was slow on all fronts in respect of Tse Uk Tsuen to Shek Yam tunnels. MTRCL also pointed out a risk that Mei Lai Road to Hoi Ting Road tunnels might encounter undetected obstructions while passing through Nam Cheong. MTRCL said that the works of Mai Po to Ngau Tam Mei tunnels had been advancing slowly and MTRCL had reflected their concern to the contractor.
4/7/2012	A meeting was held with relevant Mainland authorities. It was reported that the first TBM should reach the Shenzhen/Hong Kong boundary in April 2013. The assembly of the second one was in progress and boring was expected to start in August 2012.
18/7/2012	The Chief Executive Officer (CEO) of MTRCL issued a letter to the Secretary for Transport and Housing (STH). The letter mentioned that the CEO had conducted an internal review to assess the key challenges ahead and how they were being managed. The CEO noted that MTRCL maintained their target to complete all works to enable the successful opening of XRL in 2015 as planned. The CEO identified several issues as challenges "that we need to focus", including completion of the connecting tunnels with the Shenzhen side which was six months behind programme.
26/7/2012	The Permanent Secretary for Transport and Housing (Transport) (PST) issued a reply letter to the CEO of MTRCL on XRL key programme issues. It was stated that HyD had attended regular liaison meetings to review technical matters and the progress of XRL on the Shenzhen side. RDO/HyD senior management had registered concern to the top management of relevant Mainland authorities.

27/7/2012	The 26th PSC meeting was held. MTRCL reported that the overall physical progress was 22.4% complete against 29.6% planned. Regarding the delay in respect of Tse Uk Tsuen to Shek Yam tunnels, MTRCL said that the contractor had submitted a revised programme, which should be able to mitigate the adverse impact on the overall project programme. As for the Mai Po to Ngau Tam Mei tunnels, the advance rate started to pick up. MTRCL advised that the current delay of the tunnelling works of the Mainland section was about six months behind schedule and would cause impact on the progress of the Hong Kong section. MTRCL reported that, with the implementation of a number of delay recovery measures, the scheduled project completion by August 2015 could be achieved.
13/8/2012	HyD met the relevant Mainland authorities expressing concern about the cross-boundary tunnelling works and the latter undertook to take measures to expedite works.
21/8/2012	A meeting was held with the relevant Mainland authorities. HyD expressed that while there was delay in the first TBM, the work of the connecting tunnels must be completed on time to ensure that the XRL could be completed in 2015.
31/8/2012	The 27th PSC meeting was held. MTRCL reported that the overall physical progress was 23.5% complete against 31.4% planned. MTRCL reported that the site operations at Nam Cheong were seriously affected by the ongoing dispute between the contractor and subcontractor. MTRCL had requested the contractor to resolve the issues as soon as possible to avoid further delay. Regarding WKT and the approach tunnels, MTRCL advised that, due to site constraints and utility diversions, the access of E&M contractors to the critical plant rooms was delayed. MTRCL would take mitigation measures. MTRCL indicated that the Mainland section remained a concern. The tunnelling works were six months behind schedule and might be delayed further.

28/9/2012	The 28th PSC meeting was held. MTRCL reported that the overall physical progress was 25.1% complete against 34.5% planned. MTRCL said that the dispute between the contractor and subcontractor in respect of the works at Nam Cheong remained unresolved. The contractor would endeavor to catch up with the progress. MTRCL said that the progress of the works at Shek Yam and Pat Heung were improving, whereas the shaft excavation at Shing Mun ventilation building site continued at a slow rate. MTRCL advised that Mai Po to Ngau Tam Mei tunnels experienced further delay and a delay recovery programme was being developed. MTRCL reported that the Mainland section remained to be six months behind schedule.
15/10/2012	The Government submitted to LegCo RSC the fifth half-yearly report on the progress and financial situation of the construction of the Hong Kong section of XRL as at 30/6/2012 (LC Paper No. CB(1)24/12-13(02)). 38 major contracts together with other minor contracts had been awarded. On railway tunnels, the first TBM had started operating in September 2011 and the other two had also commenced tunnelling works in February and April 2012. Excavation works for the main structure of WKT had been completed by 29%. Works for underground concrete structure were underway at the southern part of the terminus. The tendering of major E&M contracts had generally been completed, and contractors were working on the detailed design of systems and procurement of supplies and equipment. The report also covered work on temporary traffic arrangements, the temporary monitoring points and community liaison in Tai Kok Tsui, handling of enquiries and complaints received during the construction period, public engagement and community involvement activities and employment opportunities.
19/10/2012	RDO/HyD issued a letter to the relevant Mainland authorities and urged that further efforts be made to achieve the completion target of 2015.

26/10/2012	The 29th PSC meeting was held. MTRCL reported that the overall physical progress was 26.6% complete against 37.2% planned. To recover the delay at WKT, MTRCL had identified various measures to improve the access dates of the follow-on E&M contracts. MTRCL said that the shaft excavation at the Shing Mun ventilation building site continued at a slow rate. MTRCL had asked the contractor to expedite the progress. Regarding the Mai Po to Ngau Tam Mei tunnels, MTRCL said that the conractor had taken measures to mitigate the impact of the delay. DHy reminded MTRCL that the contingencies for construction works should be used in a prudent manner.
23/11/2012	A meeting was held with the relevant Mainland authorities. It was noted that works had to be expedited. The meeting agreed to step up monitoring efforts over the relevant works. MTRCL and the owner of the Mainland section of XRL would be invited to submit regular progress reports on the construction works.
30/11/2012	The 30th PSC meeting was held. MTRCL reported that the overall physical progress was 28.3% complete against 40% planned. MTRCL considered that the civil delay at WKT was significant and was developing delay recovery measures with the E&M and trackwork teams. MTRCL said that the progress of the works at Pat Heung met with the delay recovery plan, whereas that at Shek Yam was still behind schedule. The shaft excavation at Shing Mun ventilation building site continued. MTRCL advised that the pile removal at Nam Cheong was not satisfactory. MTRCL would closely monitor the contractor's skills in pile removal operations. MTRCL reiterated that the current delay of the tunnelling works of the Mainland section would affect the progress of the Hong Kong section. In response to HyD, MTRCL said they would perform a holistic review on the overall project programme and report the results to DHy.

25/1/2013	The 31st PSC meeting was held. MTRCL reported that the overall physical progress was 31.4% complete against 46.1% planned. MTRCL said that the works of WKT were behind schedule, but the delay should be recoverable by mid-2013. MTRCL said that the tunnelling works of the Mainland section were one year behind schedule. MTRCL would meet with the relevant Mainland authorities to seek their assistance in pressing their contractor to expedite the works. MTRCL was exploring measures to compress the works under Contract 826 and expedite other work to recover the delay, with a view to completing the works in 2015. DHy enquired when MTRCL could advise on the overall project master programme as well as the delay recovery measures for WKT. MTRCL said that they were still working on the matter and could give a presentation in late February/March.
3/2013	HyD received a report from MTRCL and the owner of the Mainland section of XRL on the construction progress of the cross-boundary XRL tunnel section. According to the report, the two TBMs heading for Shenzhen-Hong Kong boundary were in delay for 10 to 11 months, whereas the T&C of XRL tunnels might be able to commence in July 2015. Measures to expedite the progress were being explored.
1/3/2013	The 32nd PSC meeting was held. MTRCL reported that the overall physical progress was 32.7% complete against 49.1% for the original master programme. RDO/HyD enquired and MTRCL responded that the revised master programme only incorporated the revised programmes of the tunnel contracts while those for WKT contracts were yet to be agreed with the contractors. MTRCL advised that the contractors for WKT were still developing additional mitigation measures. MTRCL added that they would closely liaise with relevant Mainland authorities on the works progress of the Mainland section. HyD again enquired when MTRCL would give a presentation on the overall project master programme as well as the delay recovery measures for WKT. MTRCL replied that they would do so once ready. [Note: Such a presentation was given to RDO/HyD on 8/5/2013.]

22/3/2013	The 33rd PSC meeting was held. MTRCL reported that the overall physical progress was 34.3% complete against 51.9 % for the original master programme. MTRCL mentioned that the progress was expected to be greatly improved as substantial tunnelling works would be completed in the coming months. Regarding the H-pile obstruction at Hoi Wang Road, MTRCL said that they would mitigate the delay of about four months by re-sequencing some E&M works, partially handing over the sites and providing additional site access for E&M works. There was also delay under other contracts, for which MTRCL was developing mitigation measures. MTRCL said that the progress of the tunnelling works of the Mainland section were still slow. MTRCL would provide assistance on production improvement. MTRCL advised that, based on the programme then, most of the works would be completed by August 2015 for testing and commissioning (T&C). MTRCL said that the further delay recovery measures under development with the contractors for WKT would be finalised by April, and that a presentation on the revised programme for WKT would then be made to HyD.

26/4/2013	The 34th PSC meeting was held. MTRCL reported that the overall physical progress was 35.9% complete against 55 % for the original master programme. MTRCL said the civil works at WKT were in delay. MTRCL was finalising with the contractors the delay recovery programmes for the works. MTRCL advised that the H-pile obstruction at Hoi Wang Road had caused slippage. Regarding Tse Uk Tsuen to Shek Yam tunnels, MTRCL said that they would improve site coordination management and logistic arrangements for various disciplines of works to catch up with the programme. MTRCL said that they anticipated further slippage of the tunnelling works of the Mainland section. MTRCL had reiterated their concern with relevant Mainland authorities. MTRCL said that a presentation on the revised programme for WKT would be given to HyD in July. The Chairman reminded that due consideration should be given to striking a proper balance between the potential prolongation cost and the acceleration cost with substantiations.
6/5/2013	The Transport and Housing Bureau (THB) received enquiry from the media on XRL construction delay, piles for Nam Cheong Station topside development, contractual claims, etc. Based on the information that HyD obtained from MTRCL, THB issued a reply to Apple Daily stating that the XRL works could be completed in 2015.
7/5/2013	The media published the article "西九總站設計出事 嚴重超支 高鐵延誤一年". HyD asked MTRCL to provide relevant factual information.
8/5/2013	MTRCL presented the progress situation to RDO/HyD that the WKT works and Contract 826 were behind schedule with the track-related installation programme works extending into the T&C period. MTRCL proposed to procure additional plants for trackworks as mitigation measures to catch up the delay.

23/5/2013	A meeting was held amongst THB, HyD and MTRCL to review the latest position of the project. The Administration submitted to LegCo RSC the sixth half-yearly report on progress and financial situation of the construction of the Hong Kong section of XRL as at 31/12/2012 (LC Paper No. CB(1)1108/12-13(01)). 39 major construction contracts together with other minor contracts had been awarded. Overall progress reported is summarized as follows: ● On railway tunnels, six TBMs were in operation for tunnel works. For the Mainland section, two TBMs at the Huanggang launching shafts to the north of the Shenzhen River commenced the southward tunnelling works between Huanggang and Mai Po in June and November 2012 respectively. Regarding the New Territories section, the first TBM commencing operation from the Mai Po site had successfully passed beneath Wai Tsai Tsuen in December 2012. Another TBM that commenced operation from the Tsat Sing Kong site in October 2012 was heading for Tai Kong Po. As for the urban section, the TBM boring from the Nam Cheong site heading northward successfully broke through into the southbound drill-and-blast tunnel of the Kwai Chung section in December 2012. The TBM heading southward also completed the boring works under the Tai Kok Tsui area between mid-September 2012 and November 2012. It was currently heading for Yau Ma Tei. Drill-and-blast tunnelling works were in full swing at the sites in Kwai Chung, Shek Yam, Shing Mun, Pat Heung, Tai Kong Po and Ngau Tam Mei. For the Kwai Chung section, southbound drill-and-blast tunnelling had been completed while that for the northbound tunnel was still underway. The northbound tunnel was expected to connect with Shek Yam tunnel section in the second quarter of 2013.

	● On WKT, excavation works for the main structure of the terminus had been completed by about 45%. Underground structural works at the southern end of the terminus have reached level B3 (a total of four levels from B1 to B4). For the main structure of the terminus, the excavation works had reached the lowest level B4, i.e. the platform level of the terminus. ● On E&M works, major contracts including those for the rolling stock and signalling system had been awarded. Contractors were working on the detailed design of systems and procurement of supplies and equipment. The report also covered work on temporary traffic arrangements, community liaison in Tai Kok Tsui, communication with residents of Yau Tam Mei Tsuen, handling of enquiries and complaints, public engagement and community involvement activities and employment opportunities. The Administration also provided an information paper (LC Paper No. CB(1)1072/12-13(03)) addressing the concerns expressed by the media about the construction of the Hong Kong section of XRL). The paper reported on the overall progress and schedule of the Hong Kong section of XRL, the financial situation of XRL, the removal of piles at Nam Cheong Station and the concerns about the building safety at Tai Kok Tsui.

24/5/2013	LegCo RSC discussed the progress and financial situation of the construction of the Hong Kong section of the XRL project. Major views and concerns of members are summarized as follows:- ● Progress of XRL: As regards the media's report that the progress of XRL project might be delayed and over budget, members generally showed grave concerns whether the Administration and MTRCL were able to complete the project in 2015. Some members suggested the Administration provide a project schedule showing key information of its progress and asked MTRCL to explain the details of removal of piles at Nam Cheong Station. Some members further raised questions about the penalty for MTRCL if they were unable to complete the XRL project on schedule. The Administration responded that the construction of the Hong Kong section of XRL would still be targeted for completion in 2015. MTRCL had an obligation to comply with the entrustment agreement. Furthermore, the Administration had established a high-level inter-departmental Project Supervision Committee, which held regular meetings with MTRCL to monitor the project implementation from various aspects. The Administration had been working closely with the parties concerned to ensure that XRL works would be completed as scheduled and within the approved budget. If MTRCL, however, was unable to finish the project as scheduled, the Administration would handle the matter according to the contract terms and they could provide further information if necessary.

	● Financial situation of XRL: Some members pointed out that $4.6 billion out of $5.4 billion of the project contingencies was claimed. In response to members' queries, the Administration explained that unforeseeable ground conditions were the major reason for the substantiated claims; and that the progress of the foundation and site formation works had been affected by the conditions. They had, however, already earmarked provisions for the unforeseeable situations in the course of construction. Project contingencies were prepared out of the approved budget (i.e. $66.8 billion). The Administration further stated that while any monetary claim had to be substantiated, the final compensation agreed was usually different from the amount claimed. According to current projections, the amount claimed could be fully covered by project contingencies. MTRCL responded that the contractors were entitled to submit claims in accordance with the relevant contract terms, and MTRCL would examine every claim to ensure strict compliance with the contract terms and established procedures. ● Safety issues of XRL: Members generally expressed grave concerns about the safety issues of XRL, in particular the media reports of safety issues on the Mainland section of XRL and the impact of XRL project on the structural safety of nearby facilities and buildings at Tai Kok Tsui. MTRCL responded that they had spared no effort to ensure safety of XRL project, including building safety in the vicinity of WKT and the railway tunnels; safety of railway operations; and occupational safety in the construction sites. Regarding building safety, MTRCL explained that all monitoring data so far were within expected levels and hence concluded that XRL project had not affected the safety of existing buildings. As regards occupational safety, they mentioned that the rate of accidents was about 50% lower than the Administration's standard. Some members pointed out that the data provided by the Administration was only up to 31 December 2012 and urged the Administration to provide the up-to-date information, including the grounds of substantiated claims made after December 2012 and an overview of XRL signalling system.

30/5/2013	The 35th PSC meeting was held. MTRCL reported that the overall physical progress was 37.6% complete against 58.2 % for the original master programme. MTRCL said that the progress had been dragged down mainly by the slow progress at WKT and tunnelling works at Hoi Wang Road. The Chairman remarked that if the delay rendered the current target project completion not achievable, HyD should be informed as early as possible. MTRCL confirmed they would do so and said that they would continue to keep close monitoring of the project. MTRCL advised that it was important to adopt ongoing vigilance to ensure the delay recovery measures for WKT continued to be effective. MTRCL would closely monitor the situation to see if the delay recovery programme was achievable. MTRCL said that mitigation measures were being developed to address the delay in respect of the works at Hoi Wang Road. HyD requested MTRCL to present the overall programme status and measures to catch up the delay encountered under individual contracts in future PSC meetings.
28/6/2013	The 36th PSC meeting was held. MTRCL reported that the overall physical progress was 39.7% complete against 61.8% for the original master programme. MTRCL said that there was an overall delay of six to seven months, and the critical paths were WKT and the cross-boundary section. MTRCL advised that they would consider implementing a series of short and medium term mitigation measures to catch up the programme. MTRCL said that discussion with the contractors on the delay recovery measures for WKT was still underway. MTRCL was formalising the new master programme for completion in August and presentation to HyD afterwards.

7/2013	HyD received from MTRCL and the owner of the Mainland section of XRL the second quarterly report on the construction progress of the cross-boundary XRL tunnel section to the Government. According to the report: ● the two TBMs heading for Shenzhen-Hong Kong boundary were targeted to reach Hong Kong in October and November 2013. The revised programme had taken into account a delay of 10 to 11 months as compared to the original programme; ● average excavation rates of the TBM were below target and delay recovery measures would be adopted so that the target completion date of 2015 of all works in Hong Kong remained unaffected; ● T&C of XRL could begin in July 2015; ● MTRCL would continue to liaise with relevant Mainland authorities to explore measures to avoid further delay. RDO/HyD expressed concern on the progress of the two TBMs and would continue to liaise with MTRCL and the Mainland side to avoid further delay.
5/7/2013	The second quarterly report on the construction progress of the cross-boundary tunnel section compiled by MTRCL and the owner of the Mainland section of XRL was submitted to THB (see above). HyD and MTRCL briefed STH on the overall progress of XRL and the cross-boundary tunnelling works. STH advised HyD and MTRCL to continue liaison with the Mainland partner to devise measures to mitigate the delay.

18/7/2013	The 37th PSC meeting was held. MTRCL reported that the overall physical progress was 41.4% complete against 65.2% for the original master programme. MTRCL advised that the slight slippage in the work done over the past month was mainly attributable to the slow progress of the tunnelling works. The overall programme had a delay of about seven and a half months. Various measures were being implemented under the WKT and tunnel contracts to mitigate the delay. MTRCL said that significant efforts had been made in implementing delay recovery measures for WKT. The E&M team was examining the latest WKT handover access dates and identifying alternative works sequence to achieve the target completion date of 2015. MTRCL would formulate a strategy to ensure all contract programmes were well coordinated under the revised master programme. MTRCL said that a presentation would be given to HyD on the overall master programme and the revised WKT programme in August.
23/7/2013	At the request of THB, RDO/HyD and MTRCL briefed THB on the overall progress of the Hong Kong section and the cross-boundary section. It was forecast that the cross-boundary tunnel civil works would be completed in March 2015; testing across the boundary would commence in July 2015; and the target for revenue service would be December 2015. The Government reminded MTRCL to make its best endeavour to deliver the project on time and within budget.
20/8/2013	MTRCL presented to RDO/HyD the overall situation of XRL progress. WKT works and the cross-boundary tunnel section were on the critical path. MTRCL proposed the partial opening of XRL by end 2015 (with 6 long haul platforms in service). The remaining external works at WKT would be completed in mid-2016 for full operation. Mitigation measures were under consideration.

29/8/2013	The 38th PSC meeting was held. MTRCL reported that the overall physical progress was 43.2% complete against 68.5% for the original master programme. The Chairman expressed concern about the big difference between the actual progress and the planned progress, especially the progress of WKT works. MTRCL responded that the situation had been improved in July and the overall progress was expected to pick up in the coming months. MTRCL supplemented that, with the change in the WKT contractors' management, all parties involved had clear targets of the coming milestones and they would explore all possible measures to improve the situation and to resolve any potential obstacles. MTRCL said that there was an overall delay of about eight months. Various measures were being considered under the WKT and tunnel contracts to mitigate the delay. MTRCL undertook to present the latest overall programme and financial situation to the Chairman and HyD in September. For the delay of WKT works, MTRCL said that they were identifying alternative cable routes and critical plant rooms so that works could be prioritised and re-sequenced to achieve the target completion of the project in 2015. MTRCL explained that the H-pile obstruction at Hoi Wang Road had been tackled.
13/9/2013	MTRCL approached DHy to explore a partial opening scenario whereby essential parts of the works would be completed towards the end of 2015 whereas testing and trial runs would start upon the completion of various sections of tunnels, with the aim of allowing partial operation (sufficient to meet the early-year demand) by the end of 2015. Under the partial opening scenario, six out of the 15 tracks and the essential railway facilities should be ready to provide passenger service. As there was inadequate information on the feasibility of the partial opening scenario, HyD, without indicating agreement to the proposal, requested MTRCL to provide further information such that a report could be made to THB.
19/9/2013	DHy had a site visit to Shek Kong Stabling Siding and Emergency Rescue Sidings, and Contract 823A tunnel sites.

27/9/2013	The 39th PSC meeting was held. MTRCL reported that the overall physical progress was 44.4% complete against 71.5% for the original master programme. MTRCL said that the slippage of works in August had mainly been due to the coupler issue at WKT and slow progress of the tunnelling works of Tai Kong Po to Tse Uk Tsuen tunnels. MTRCL expected that the coupler issue at WKT would gradually be resolved and the productivity of concreting works would be greatly improved in the coming months. MTRCL reported that the there was an overall delay of about eight and a half months, and that additional measures were being considered to mitigate the delay.

17/10/2013	The Administration submitted to LegCo RSC the seventh half-yearly report on the progress and financial situation of the construction of the Hong Kong section of XRL as at 30/6/2013 (LC Paper No. CB(1)81/13-14(01)). 39 major construction contracts together with other minor contracts had been awarded. Overall progress reported is summarised as follows:- ● For railway tunnels, seven TBMs were in operation, including two from the Huanggang launching shafts to the north of the Shenzhen River heading southward for Mai Po continuing with the excavation works of the cross-boundary tunnel section. The last TBM for the whole project started boring works of the northbound tunnel from the Mai Po site in early July 2013 and was heading for Ngau Tam Mei. Another TBM commencing operation from the Mai Po site for the southbound tunnel was expected to reach Ngau Tam Mei by the end of July 2013. Moreover, the TBM commencing operation from the Tsat Sing Kong site continued to head northward for Tai Kong Po. The TBM at the Shek Kong site commenced operation in March 2013 and was heading southward for Tse Uk Tsuen. As for the urban section, after completion of the excavation for the southbound tunnel between Nam Cheong and Mei Lai Road in late 2012, the TBM was re-assembled in March 2013 and commenced the boring works northward from Nam Cheong for the northbound tunnel of the same section. Another TBM continued to head for Yau Ma Tei after excavating through the Tai Kok Tsui area. Drill-and-blast tunnelling works were in full swing at the works fronts in Kwai Chung, Shek Yam, Shing Mun, Pat Heung, Tai Kong Po and Ngau Tam Mei. Drill-and-blast tunnelling for the Kwai Chung to Shek Yam section was completed in March 2013. 55% of the tunnelling works, including drill-and-blast and TBM excavation works, had been completed.

	● Structural works for the seven ventilation buildings located at Mai Po, Ngau Tam Mei, Pat Heung, Shing Mun, Kwai Chung, Nam Cheong and Mong Kok West were underway. Construction of the Kwai Chung and Pat Heung ventilation buildings was almost completed and the two buildings were expected to be topped out in the second half of 2013. ● On WKT, over 60% of the excavation works for the terminus structure had been completed. Structural works at the southern end of the terminus had reached the lowest level B4 (a total of four levels from B1 to B4), and the concrete structure of the first two levels (B1 to B2) had also been completed. Concrete structural works for the platform level (B4) and B3 level of the terminus continued under the bottom-up approach. ● On E&M works, installation of E&M equipment had commenced at the WKT and the Shek Kong Emergency Rescue Siding and Stabling Sidings. Design work for the XRL rolling stocks and signalling systems had been completed and their production was underway. As part of the rails had been delivered to the Shek Kong site, the laying of rails and the advance works for the overhead power supply equipment were in progress concurrently. The report also covered work on temporary traffic arrangements, community liaison for Tai Kok Tsui, communication with residents of Yau Tam Mei Tsuen, handling of enquiries and complaints, public engagement and community involvement activities and employment opportunities.

22/10/2013	Based on information by HyD, it was reported to STH that the cross-boundary tunnelling works continued to encounter delay. If the delay could not be mitigated, T&C of XRL could only start in October 2015, thus impacting on the overall commissioning date for XRL. At the same time, the MTRCL had recently proposed a target of partial opening of XRL (putting into service six tracks out of 15 tracks by end-2015) and a full Day 1 commissioning (including 10 tracks) in mid-2016. This was based on the latest progress of works, taking into account all delay recovery measures being implemented in various contracts. The WKT and the cross-boundary tunnel section were on the critical path of the XRL project and any further delay in either of these might affect the target commissioning date of XRL. Mitigation measures such as re-sequencing of works and phased access of E&M installation works were under consideration. Based on the latest financial situation and status of contract claims, it was considered that the expenditure of the project could be kept within the approved project estimate. In view of the latest development, THB requested MTRCL and HyD to provide a detailed briefing on the latest progress of the project.

29/10/2013	The 40th PSC meeting was held. MTRCL reported that the overall physical progress was 46% complete against 74.3% for the original master programme. The Chairman was very concerned about the progress of works and requested MTRCL to provide details on the 25% difference between the actual progress and the planned programme. MTRCL said that there were challenges on different fronts, with the biggest at WKT. MTRCL was working hard to catch up the progress with a view to meeting the target opening date. The Chairman further requested that MTRCL provide information on the roadmap towards the project opening for monitoring against the actual progress. The Chairman remarked that an opening plan, including the readiness of the external works and public areas, would be necessary. MTRCL reported that there was an overall delay of about nine months in general, and an 11-month delay in the cross-boundary tunnelling works. MTRCL said that measures were being considered to mitigate the delay. Regarding WKT, MTRCL advised that the coupler issue had been resolved and the progress of concreting works was expected to pick up in the coming months. As for the cross-boundary section, MTRCL said that a further delay of two to three months had been forecast by the Mainland contractor, and it might have implications on the overall programme of the project. MTRCL said that they would liaise closely with relevant Mainland authorities and identify ways to mitigate the delay as far as possible.
8/11/2013	MTRCL and HyD briefed PST. MTRCL presented the progress of the WKT works and 826 tunnelling works. For WKT, MTRCL stated that it could be ready for partial opening scenario by December 2015. It was indicated that the 826 tunnelling works could only be completed by October 2015 and the testing of XRL (which would normally take three months) could only commence from October 2015. As it would take another three months to conduct trial runs, the target opening date of end-2015 might be affected. THB queried that, having regard to the progress of Contract 826, it would be technically impossible to have partial operation in December 2015. As XRL might not be able to commence operation in 2015, THB subsequently arranged DHy to report to THB.

20/11/2013	HyD briefed STH on XRL. Based on the assessment of works progress, THB contemplated making it public at the RSC meeting scheduled for 22 November 2013 that XRL might only commence operation after 2015.
21/11/2013	The CEO of MTRCL called STH expressing disagreement with reporting to LegCo RSC that the 2015 completion target would be delayed. He stressed that it was still feasible to complete all the works and that XRL could commence operation by end-2015.

21/11/2013	As directed by STH, an urgent meeting was held amongst THB (led by PST), HyD and MTRCL (led by CEO) in the evening of 21 November 2013. MTRCL emphasized that it was imperative that the target of 2015 be adhered to, lest MTRCL would lose its leverage to press its contractors to push forth the project. MTRCL added that it was still possible for XRL to be completed and commence operation within 2015. THB pointed out that according to an earlier briefing by MTRCL, XRL had encountered problems at WKT and the cross-boundary tunnelling works. THB enquired why MTRCL remained of the view that XRL could be completed and commissioned in 2015. MTRCL said that it was trying hard to identify solutions to meet this target; at the very least, single track operation[1] was possible. THB stated that single track operation did not comply with government's requirement and was therefore unacceptable. THB reiterated that while it was appreciated that MTRCL needed to use the 2015 target to continue exerting pressure on its contractors to expedite the works, the Government needed a realistic assessment and should alert the public immediately if the target was not achievable. THB said that based on MTRCL's information, XRL would only be ready for testing in October 2015 and queried how it could be commissioned within 2015. It was noted that there was delay in the cross-boundary tunnelling works, and such delay would eat into the time for the tunnelling works on the Hong Kong side, thus posing challenges to MTRCL. MTRCL responded that they would be in a position to assess the impact once the cross-boundary tunnelling works were completed on the Mainland side and commenced on the Hong Kong side. THB cautioned MTRCL not to over-state its ability to overcome the challenges. After much discussion, the meeting concurred that while the target of 2015 should be maintained at that stage, the Government and MTRCL should be upfront with the challenges faced by the project when attending the RSC meeting the following day. Meanwhile, MTRCL should provide the Government with a clear roadmap on how the target could be met.

[1] Single track operation scenario is to use a single tunnel for the northbound and southbound trains, running alternatively between WKT and the boundary of the Mainland.

22/11/2013	The Government stated that based on the latest assessment of MTRCL, the major works of XRL could be completed within 2015. Thereafter, testing and trial runs would be conducted. Normally, this would take six to nine months. The railway could only come into operation after the relevant authorities had approved the test results so as to ensure the safety and reliability of the railway service.
28/11/2013	A meeting was held among HyD and relevant Mainland authorities. It was noted that the first TBM would reach the boundary by 28 February 2014 and the current progress might affect the opening date of 2015.
29/11/2013	The 41st PSC meeting was held. MTRCL reported that the overall physical progress was 48% complete against 77% for the original master programme. MTRCL anticipated an increase in the production rate of tunnelling, P-way[2] and E&M works, as well as the works at WKT in the coming months. MTRCL said that they had developed a roadmap setting out the target dates for completion of all civil works and E&M works by June 2015 for T&C. On HyD's enquiry, MTRCL confirmed that the target dates were achievable. The Chairman reminded MTRCL to ensure that the project would be delivered within the approved budget. MTRCL reported that there was an overall delay of nine and a half months, with the WKT works and the works of the cross-boundary section and Tai Kong Po to Tse Uk Tsuen tunnels being most critical. The Chairman requested MTRCL to especially monitor and improve the progress of the works of the Tai Kong Po to Tse Uk Tsuen tunnels. HyD requested MTRCL to beef up the roadmap with critical milestones under individual contracts for achieving the target completion in 2015. The Chairman further requested and MTRCL agreed to provide more details on the proposed opening arrangement for the project, including the readiness of the external works of WKT and public areas. Regarding the delay of WKT works, MTRCL was exploring mitigation measures for the achievement of the Minimum Operating Requirements. Similarly, measures were being identified to mitigate the delay of the tunnelling works.

[2] "P-way" generally refers to track rail, crossings, trackforms, etc.

21/1/2014	The RDO-MTRCL Coordination Meeting 120 and the 45th Contract Review Meeting were held. MTRCL maintained at the Coordination Meeting that the project was targeted for completion in 2015 and that a roadmap was submitted on 9 January 2014 with milestones of key activities leading to the target completion in 2015.
24/1/2014	The 42nd PSC meeting was held. MTRCL reported that the overall physical progress was 51.3% complete against 82% for the original master programme. MTRCL anticipated that the overall production rate would be improved with the forecast increased volume of concreting and E&M works at WKT as well as more access for track-laying in the coming months. The Chairman expressed his continued concern about the significant programme slippage and enquired about the confidence level of the proposed minimum operation in 2015. MTRCL replied that they would review the overall programme situation and present to HyD in April the latest opening arrangement and commissioning timeframe. The Chairman also reiterated the importance of financial control to ensure that the project would be delivered within the approved budget. MTRCL reported that there was an overall delay of about ten months, and that the trend of programme slippage had slowed down in the past few months. MTRCL presented a roadmap towards the substantial completion of the project in end of 2015, showing the imminent target dates for major activities under individual contracts. MTRCL advised that some measures were being considered to mitigate the delay. As regards WKT, MTRCL said that there was a change of personnel in the contractor's management team, which was expected to bring improvement to the overall progress of works. As for the WKT approach tunnels, MTRCL said that they would liaise with the contractor to improve the progress of works. MTRCL reported on an unmapped pile obstruction within the Nam Cheong site, advising that the delay could be absorbed into the current programme if the issue could be resolved in three to four weeks. MTRCL said that the works of the Tai Kong Po to Tse Uk Tsuen tunnels continued to be behind schedule. Mitigation measures were being taken. MTRCL reported that the progress of constructing the Shing Mun ventilation building was slow, and mitigation measures would be taken.

18/2/2014	The RDO/HyD-MTRCL Coordination Meeting 121 and the 46th Contract Review Meeting were held. MTRCL maintained at the Coordination Meeting that the project was targeted for completion in 2015 and would present the latest programme situation to RDO/HyD in April 2014.
28/2/2014	The 43rd PSC meeting was held. MTRCL reported that the overall physical progress was 53.2% complete against 83.8% for the original master programme. MTRCL said that the production rate was gradualling increasing over the past few months and anticipated a further increase in the coming months with the additional work fronts at WKT and track-laying works. The Chairman expressed his continued concern about the significant programme slippage and enquired whether the forecast project completion in 2015 could be achieved. MTRCL said they were working closely with the contractors to meet the target and stated that a presentation would be given to HyD on the latest project commissioning scenario. MTRCL reported that the WKT works had been delayed for two weeks in January, and the cross-boundary section continued to suffer delay as the second TBM drive from Shenzhen was further behind schedule. MTRCL said that some improvement had been observed after the implementation of mitigation measures. MTRCL reported that construction of the Shing Mun ventilation building remained to be a concern. MTRCL was arranging for the early access for E&M works to make up for the delay. MTRCL said that the progress of the cross-boundary section was unsatisfactory, mentioning that the contractor had mobilised some resources to help with the Mainland tunnelling works. MTRCL added that they would take all necessary measures to ensure that the contractor would deploy adequate resources for the works on the Hong Kong side.
13/3/2014	TBM Advisory Panel meeting 68 for the cross-boundary tunnel section was held.

18/3/2014	The RDO-MTRCL Coordination Meeting 122 and the 47th Contract Review Meeting were held. MTRCL maintained at the Coordination Meeting that the project was targeted for completion in 2015 and would present the latest programme situation to RDO/HyD on April 2014.
27/3/2014	TBM Advisory Panel meeting and Monthly Works Progress Sub-group meeting for the cross-boundary tunnel section were held.

2/4/2014	The 44th PSC meeting was held. MTRCL reported that the overall physical progress was 54.8% complete against 85.5% for the original master programme. MTRCL advised that the target production rate had been compromised in February partly due to the long Chinese New Year holiday. MTRCL said that, while the progress of works at WKT had been relatively steady over the last few months, individual tunnel sections, in particular the Tai Kong Po to Tse Uk Tsuen tunnels, were behind schedule. The Chairman showed concern about the significant programme slippage and asked if the target completion in 2015 was still achievable. MTRCL replied that they were reviewing the overall picture of project delivery and would give a presentation to DHy in May. MTRCL said that the project had been delayed for another two weeks in February. MTRCL would take measures to mitigate the delay and improve the production rate. MTRCL reported on a serious flooding incident concerning the Tai Kong Po to Tse Uk Tsuen tunnels, which had caused the submersion of a TBM in flood water. MTRCL said that the contractor was assessing the damage and would make use of any available spare parts for replacement if the machine was not beyond repair. MTRCL and the contractor were also looking into the feasibility of contingency plans. The Chairman requested MTRCL to report on the detailed findings of the incident and their assessment on the associated cost and programme implications when available. HyD added that precautionary measures should be in place to protect the sites against similar incidents. As regards WKT, MTRCL stated that the production rates were significant behind the planned ones, causing cumulative delay. A detailed action plan had been developed to ensure the focus was maintained on the most critical items. MTRCL reported that the progress of the cross-boundary section had further slowed down. The works on the Hong Kong side had to achieve the planned rates to make up for the delay of the Mainland section.

12/4/2014 and 13/4/2014	CEO/MTRCL and Chairman/MTRCL, respectively, urgently called STH informing him that there would be delay in the completion date of the construction works of XRL from 2015 to end-2016, meaning service commissioning in 2017. Projects Director of MTRCL called DHy to convey the same message.
13/4/2014	DHy and RDO/HyD met Projects Director of MTRCL and his team to discuss the issue. On 13 April 2014, DHy met MTRCL to enquire about their latest assessment on the XRL revised programme, taking into account the delay recovery measures for the works in WKT construction and the flooding of the TBM incident under Contract 823A. MTRCL advised that they were still working with the related contractors for a realistic programme to mitigate the current delay and would inform DHy accordingly.
14/4/2014	STH and THB team, together with DHy, met with Chairman/MTRCL, CEO/MTRCL and Projects Director/MTRCL. STH asked MTRCL to provide a full assessment report on the construction progress including a full and proper account for the substantial delay.
15/4/2014	STH informed the public that he had received verbal notifications from MTRCL that the completion of XRL would be delayed. He had asked MTRCL to submit a full assessment report. At the same time, he had tasked DHy to conduct an independent review and assessment of the construction progress. MTRCL subsequently held a press conference and stated that the completion date of the Hong Kong section of XRL would be pushed to 2016 for operation in 2017.
16/4/2014	A special PSC meeting was held. DHY requested MTRCL to provide further information to assist to analyse in detail the latest progress of the XRL project.
16/4/2014	PST wrote to CEO/MTRCL reiterating STH's request for a full report and stated that the report should be ready in a week's time.
17/4/2014	CEO/MTRCL replied to STH saying that they were working hard to prepare a full briefing for the MTRCL Board on 29 April 2014 and the RSC on 5 May 2014. MTRCL would try to share the briefing content with the Government as soon as possible, likely to be "late next week".

22/4/2014	PST wrote to CEO/MTRCL and stated that the Government would appreciate the full assessment report to be ready by 24 April 2014; and unless MTRCL advised otherwise, the report would be made available to the RSC and the public.

Transport and Housing Bureau
April 2014

Translation

For Information
May 2013

Legislative Council Panel on Transport
Subcommittee on Matters Relating to Railways

Progress and Financial Situation of Construction of Hong Kong Section of Guangzhou-Shenzhen-Hong Kong Express Rail Link

PURPOSE

As requested by the Subcommittee on Matters Relating to Railways, this paper addresses the concerns expressed by the media about the construction of the Hong Kong section of the Guangzhou-Shenzhen-Hong Kong Express Rail Link (XRL), in particular its progress and financial situation.

OVERALL PROGRESS AND SCHEDULE

2. The Government has entrusted the design and construction of the XRL to the MTR Corporation Limited (MTRCL). Construction of the XRL commenced in January 2010, and all major construction contracts for civil, electrical and mechanical (E&M) works have been awarded. The construction is targeted for completion in 2015. We spare no effort in monitoring the works entrusted to MTRCL to ensure that the implementation of the XRL project is within the approved project estimate, of good quality and on schedule. We will continue to work closely with the parties concerned to ensure that the XRL works will be completed as scheduled within the approved budget.

3. As at 31 March 2013, over 70% of the excavation works for the tunnels and West Kowloon Terminus (WKT) have been completed. Excavation works at the southern end of the WKT have reached to level B4, and the main structures for the first two underground levels have been completed. For the

northern part of the WKT, unforeseeable ground conditions were encountered, the MTRCL and the contractors have been exploring feasible measures to catch up with the programme so that the completion of construction of the XRL will not be affected.

4. Construction of all diaphragm walls at the Shek Kong Emergency Rescue Siding (SKERS) site has been completed. Among the 14 buildings to be constructed under the project, seven have their structural works completed. E&M works at the WKT and SKERS sites commenced. The design of rolling stock has been completed and manufacturing of rolling stock started in April 2013.

5. The relevant Government departments (including the Highways Department (HyD) and Buildings Department) and the MTRCL have conducted comprehensive and prudent assessments of the planning and design of the XRL project to ensure that the design and construction methods are all safe and practicable. Nevertheless, there are often unexpected difficulties in the course of construction, and the MTRCL will liaise closely with the contractors to work out the most appropriate solutions.

6. The design of the WKT was completed prior to the commencement of works. Only minor amendments or enhancements to the design were made whenever necessary in the course of works to tie in with the actual situations, such as unforeseeable ground conditions. The MTRCL will work closely with the contractors to draw up appropriate construction plans. The MTRCL, HyD and other relevant departments will also examine various measures proposed by the contractors to minimise the impacts on the project progress and cost, as well as the local community.

FINANCIAL SITUATION OF THE PROJECT

7. As at the end of 2012, all major construction contracts for civil and E&M works have been awarded with a total value of $44.812 billion. As at 31 March 2013, the cumulative expenditures were about $24.418 billion.

8. In the course of works for infrastructure projects, contractors often encounter unexpected difficulties. If it is necessary to have more time or

change to more appropriate construction methods and machinery to cope with the situation, the MTRCL will handle the matter according to the contract terms. The overall impact on the project will be assessed for all options available, and payments will be made, in accordance with the contract terms, to the contractors to cover their reasonable additional expenditures. We have already earmarked, in the funding for the XRL project, provisions for unforeseeable situations in the course of construction, and the project contingencies amounted to about $5.4 billion at 2009 price level.

9. Regarding expenditures arising from contractual claims, contractors have obligation to complete the works concerned as required under the contracts within the specified period of time. Where there are situations not expected at the tendering stage (e.g. there were more amount of excavated materials or more complicated obstructions than expected in the course of foundation or excavation works and the contractors may have to spend more time or change to more appropriate machinery to cope with the situation), the contractors are entitled to submit claims to the MTRCL in accordance with the relevant contract terms.

10. Depending on the complexity of individual cases, it may take some time to resolve the claims. When the verification of claims is comparatively complicated, the MTRCL may need more time to negotiate with contractors on the justifications of their cases in accordance with established principles for handling claims. During the negotiation process, the contractors have to provide sufficient justifications with detailed documents supported to substantiate their claims. The MTRCL will examine every claim to ensure strict compliance with the contract terms and established procedures.

11. If the process involves in-depth investigation and analysis of the information and documents provided by the contractors, the MTRCL will need professional advice in various disciplines to assess the validity of their claims and whether the amount claimed is reasonable. If the contractors disagree with the results of the assessment, further review and investigation will be required to work out the feasible resolutions. Therefore, it takes much time to process contractual claims. The claims may remain unresolved when the works are completed. Under certain circumstances, dispute resolution mechanisms such as mediation, adjudication and legal proceedings may be required to settle the claims.

12. As at the end of 2012, 97 cases have been resolved with about $1,049 million awarded. The MTRCL continues to process the unresolved claims prudently. Regarding the progress of the works for the northern part of the WKT (that has aroused certain public concern recently), the contractor has raised that the progress of the foundation and site formation works has been affected by unexpected ground conditions. The MTRCL is discussing feasible measures with the contractor to cope with the situation with a view to catching up with the scheduled programme. According to current projections, the amount claimed can be fully covered by project contingencies.

13. In view of the scale of the XRL project, we have established a high-level inter-departmental Project Supervision Committee (PSC), chaired by the Director of Highways. The PSC holds regular meetings with the MTRCL and the related Government departments to monitor the project implementation at various levels to review project progress, monitor procurement activities, post tender award cost control and resolution of contractual claims, etc. The PSC also provides steer on any matters that would affect the progress of the XRL project.

14. In addition, HyD has employed an external consultant to assist in monitoring of works and undertake regular audits to verify the MTRCL's compliance with its obligations under the entrustment agreement. The audits cover construction safety, technical, procedural, and financial aspects. The handling of contractual claims by the MTRCL will also be examined.

REMOVAL OF PILES AT NAM CHEONG STATION

15. Various options of the tunnel alignment were studied at the design stage of the XRL project. The XRL Scheme, authorized by Chief Executive-in-Council in October 2009, is an underground railway corridor, which has the least impacts on the local communities. The tunnel at the south of the urban area is constructed by tunnel boring machines (TBMs) and where possible, the tunnel is under wider carriageways like Hoi Wang Road and Sham Mong Road. As a whole, fewer buildings are along the alignment and the impact to the community is comparatively low.

16. In a dense urban area, it is inevitable that some structures conflict with the tunnel, and thus are required for removals, adjustments or re-provisioned. The planning of the top-side development at Nam Cheong Station and the West Rail Line began in the 90s. Some of the piles of the top-side development were also constructed during the construction of the West Rail Line. As the tunnel alignment conflicts with some of those piles, it is necessary to remove those piles for the TBM to drive through. Bored piles will be reinstated to replace the original piles to provide support for the future top-side development at the Nam Cheong Station. The relevant works have been indicated in the XRL Scheme gazetted in 2009 as part of the project. They were also reported to the Subcommittee on Matters Relating to Railways of the Legislative Council in a paper entitled "Supplementary Information on the Increase in Costs of the Railway and Non-railway Works" in November 2009.

17. The TBMs will pass under the area near Nam Cheong Station twice for the construction of the northbound tunnel and the southbound tunnel. The TBM has already passed under the area near the station successfully (for the southbound tunnel). Removal of the remaining piles is being carried out smoothly and will be completed before the TBM pass under the area near the station (for the northbound tunnel) for the second time.

CONCERNS ABOUT THE BUILDING SAFETY AT TAI KOK TSUI

18. One TBM for constructing the southbound tunnel successfully passed under the Tai Kok Tsui area for the first time in November 2012. It is heading towards Yau Ma Tei. The TBM for constructing the northbound tunnel is expected to pass under the Tai Kok Tsui area for the second time in the second quarter of 2014.

19. The Government and the MTRCL attach great importance to the impact of the XRL project on the structural safety of nearby community facilities and buildings. The MTRCL has carried out the design and construction of the project under the Buildings Ordinance and according to relevant safety requirements to ensure that the railway works will not affect the structural safety of buildings along the railway alignment.

20. Since 2012, the MTRCL has installed monitoring points in Tai Kok Tsui

and the buildings concerned to closely monitor the conditions of buildings, ground and communal facilities during the works. It submits regular monitoring reports to HyD for examination of relevant departments. So far, all monitoring data are within expected levels. The XRL project has not affected the safety of existing buildings.

21. The MTRCL has established procedures to handle reports of damages to buildings. Upon receipt of such reports, it will arrange joint site inspection and professional assessment by the project team, representatives of its contractors and the person concerned to ascertain whether the relevant damages are caused by the XRL works. It will also install crack gauges in some buildings to strengthen monitoring of buildings and protection of residents. We and the MTRCL take construction safety as the prime concern and will continue to keep a close watch over the project and maintain communication with residents.

Transport and Housing Bureau
May 2013

新聞公報

立法會：運輸及房屋局局長立法會鐵路事宜小組委員會開場發言（一）（只有中文）

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以下為運輸及房屋局局長張炳良教授今日（五月二十四日）出席立法會鐵路事宜小組委員會，就廣深港高速鐵路香港段項目進展及財政狀況的開場發言：

主席：

就近日傳媒對廣深港高速鐵路（高鐵）香港段項目的報道，多謝主席容許我們在今天的會議上加插這個議題，讓我們可以向委員交代高鐵項目的最新進展及財政狀況，以及回答委員的提問。今天會上，港鐵公司的代表也可為大家匯報有關的工程進度和承建合約的落實情況。

政府委託港鐵公司進行高鐵香港段的建造，項目於二〇一〇年一月展開以來有序進行。多部隧道鑽挖機現已投入運作。截至二〇一三年三月底，高鐵香港段項目包括隧道及總站在內所需的挖掘工程，已完成超過百分之七十。根據港鐵公司最新的評估，我們的目標仍然是在二〇一五年完成高鐵香港段的工程。

在一般大型基建項目的建造過程中，承建商遇上比投標時預計較為困難的情況是頗為普遍的。在大型工程合約中，因種種原因遇到承建商提出申索而進行雙方商討，也時有發生。西九龍總站是一個建在地面以下約26米的地下鐵路站，工程非常複雜，涉及的工程數目及種類繁多，需要各方面周密的協調。在工程的某一階段期間稍有滯後並不足為奇。據我們了解，西九龍總站北段工程的進度，的確因遇上比預期較為複雜的地質情況而受到影響。港鐵公司一直監察承建商的進度，與他們保持溝通，以制定合適的施工方案及步驟，以求對工程的進度、成本、以至對社區的影響減至最低。

而在高鐵項目的668億元撥款中，政府已預留應急款項以應付建造過程中未能預見的情況。根據現時估算，項目的應急費用應足以應付進行追回進度的措施所需的開支，不會導致項目超支。

事實上，由路政署署長領導的跨部門項目監管委員會，定期與港鐵公司開會，一直在密切監督高鐵項目的落實進展和有關情況，以確保項目能如期完成、不會超出核准工程預算、並符合對施工質素的要求。我們及港鐵公司會繼續與相關各方緊密配合，以二〇一五年按預算完成高鐵工程為總目標。

我們已向立法會提交有關的資料文件，供委員參閱。

主席，我現在邀請港鐵公司的代表向委員作一個簡短的匯報。

完

２０１３年5月２４日（星期五）
香港時間9時４７分

Forecast

- Dec 13
  - Complete down track tunnel excavation from Mai Po to Hoi Ting Road, 13 km (28%) of tunnels handed over for laying tracks
  - 25% of WKT plant rooms ready for E&M installation

- Sep 14
  - 43 km (90%) of tunnels handed over for laying tracks
  - 65% of WKT plant rooms ready for E&M installation

- Dec 14 - Energize overhead line and commence dynamic testing in down track from Mai Po to Nam Cheong

- Mar 15 – Cross boundary tunnels civil work complete

- Jul 15 – Commence dynamic testing across boundary to Futian

- Dec 15 – Target for revenue service