

二零一四年五月五日  
討論文件

立法會交通事務委員會  
鐵路事宜小組委員會

廣深港高速鐵路香港段  
工程的最新狀況

## 目的

二零一四年四月十五日，運輸及房屋局局長(局長)向公眾表示，政府最近收到香港鐵路有限公司(港鐵公司)的口頭通知，指廣深港高速鐵路香港段(高鐵香港段)的工程未能在二零一五年完成；局長隨即要求港鐵公司從速提交有關高鐵香港段工程的全面評估報告，並作詳細解釋。局長在四月十五日談話全文載於**附件A**。港鐵公司同日宣布，高鐵香港段工程的完工日期將延至二零一六年，於二零一七年投入服務(港鐵公司所發出的新聞稿載於**附件B**)。

2. 本文件載述高鐵香港段工程的最新狀況，以及路政署署長(署長)向局長提交的獨立審視工程進度的評估報告(審視報告)中的主要結果。審視報告全文載於**附件C**(只有英文版)。港鐵公司會另行向小組委員會提交文件。

## 背景

3. 高鐵香港段全長26公里，屬建於地底的鐵路走廊，其走線由位於西九龍的新建總站往北面延伸，經油尖旺、深水埗、葵青、荃灣、元朗，至皇崗以南的邊界與高鐵內地段連接。

4. 立法會財務委員會於二零一零年一月十六日批准撥款進行高鐵香港段鐵路(550億1,750萬元)和非鐵路(118億元)的建造工程，合共668億元。

5. 二零一零年一月二十六日，政府與港鐵公司簽訂委託協議(Entrustment Agreement)，委託該公司進行高鐵香港段項目

的建造及試行運作。

6. 至今，高鐵香港段工程一共批出有20份主要的土木工程合約，以及20份機電工程合約(列於**附件D**)，每份合約價值逾5,000萬元。

## 監察機制

7. 二零零八年初，路政署鐵路拓展處(鐵路拓展處)委聘顧問檢視有關的監察機制安排，以確保港鐵有效推展高鐵香港段項目。勞氏鐵路亞洲有限公司(Lloyd's Register Rail (Asia) Limited)負責進行相關檢視，建議政府就高鐵香港段項目的設計和建造採用「監察和核證」的模式，核實港鐵公司是否有按指定要求執行相關的程序，具體來說，是按照風險評估抽樣覆核港鐵公司在實施工程時是否符合工程計劃範圍及核准預算。

8. 政府於二零一零年四月向立法會提交編號CB(1)1573/09-10(04)的文件，闡述政府監察高鐵香港段建造工程的具體機制；該文件載於**附件E**。政府監察高鐵香港段建造工程的流程表見**附件F**。

9. 如上述文件闡述，署長是高鐵項目的監管人員，並負責領導一個**項目監管委員會(監委會)**。監委會每月舉行會議以檢討項目進度，並對相關採購活動、招標後的成本控制和有關合約申索的調解進行監察。監委會亦會督導影響高鐵項目進展的事宜。港鐵公司向監委會須提交進度報告，匯報高鐵項目的最新進展和財務狀況。監委會至今已舉行45次會議，最近一次定期會議於二零一四年四月二日舉行。另外，監委會於二零一四年四月十六日舉行了一次特別會議。

10. 此外，路政署一名助理署長級人員，每月均與港鐵公司的總經理和項目經理舉行**項目統籌會議**，以監察推展高鐵香港段項目的各項工作，當中包括(但不限於)適時完成與土地相關的工作，調解第三方訴求，處理在設計、建造和環境方面對高鐵香港段項目的進度和時間表或有潛在影響的事宜，以及與其他項目的銜接事宜等。由二零一零年一月至二零一四年四月中，合計舉行了50次項目統籌會議。

11. 同時，路政署一名總工程師級別的人員，每月均與港

鐵公司的工地督導人員就主要的土木及機電工程舉行合約檢討會議。如果港鐵公司的承建商出現施工滯後，港鐵公司要在合約檢討會議上匯報正在研究的措施以減少滯後。截至二零一四年四月中，合計舉行了47次合約檢討會議。

12. 另外，路政署聘請了外間顧問嘉科工程顧問有限公司(Jacobs China Limited)(作為監察和核證顧問)，協助進行監察工作和定期審核，以核實港鐵公司履行與政府簽訂的委託協議下責任的情況。外間顧問會檢視並通知路政署高鐵香港段項目在推展期間是否存在任何潛在風險，並會就港鐵公司建議的緩解措施(以追回施工進度)合適與否提供意見。

13. 監委會的成員中有運輸及房屋局(運房局)的代表。此外，署長在每月與局長舉行有關路政署工作的例會上，均向局長匯報高鐵香港段項目的進度。按需要署長亦會向局長匯報任何與推展高鐵香港段項目相關的重要事宜。路政署及／或港鐵公司也不時因應運房局的要求，就關乎高鐵香港段項目的重要事項向局方進行匯報。

14. 路政署在其鐵路拓展處轄下設立了專責分部，以監察高鐵香港段項目的推展。此專責分部一共有十三名土木工程師，當中包括一名總工程師作為分科主管，四名高級工程師以及八名工程師。分部內設有相關支援人員，就機電工程及建築圖則方面提供意見。

## 委託計劃

15. 根據政府二零零九年提交給立法會財務委員會工務小組委員會的文件(PWSC (2009-10)68)，我們預計如得到財務委員會的批准高鐵香港段建造工程預計於二零零九年十二月展開，並於二零一五年完成。

16. 根據委託協議，港鐵公司須竭盡所能，按照委託時間表(Entrustment Programme)完成委託工作。根據委託計劃，預計於二零一五年八月向政府作出移交。正如一般工程合約，委託協議內有延長合約期的條款(“Extension of Time”)。在指明的情況下，雙方可協議修訂委託時間表。截至今日，委託計劃未有

作出任何修訂<sup>1</sup>。

17. 大型土木工程合約(尤其當涉及在已經高度發展的市區內進行地下大型工程時)出現滯後的情況並不罕見，工程往往會因不同的風險因素而令進度在某段時間未能趕上工程計劃的設定水平。這些滯後或可以通過措施得以彌補或追回。高鐵項目自二零一零年展開以來，我們設立了多層的項目監察機制，而直至近期，縱使工程遇到多項挑戰(於下文詳述)，港鐵公司仍向政府多次保證二零一五年完工的目標是可以達到的。在路政署而言，該署依照向立法會匯報的監察機制(見上文第八段)進行監察工作。總體而言，進行的定期監察工作有以下各項：

- (i) 監察和核證顧問以及路政署人員出席合約檢討會議，負責主要合約的港鐵公司的駐工地監督人員在會議上報告其合約的工作進度以及需關注的事項。
- (ii) 監察和核證顧問以及路政署人員定期進行實地視察，以及與港鐵公司的工地督導人員會面，並由監察和核證顧問向路政署每月提交報告。
- (iii) 路政署一名總工程師級人員出席港鐵公司每月召開的成本控制會議，並透過出席港鐵公司的項目監管組，或以文件通訊形式就港鐵公司對工程變更、申索以及其他成本更改方面的評估提供意見。
- (iv) 一名路政署助理署長級的人員與港鐵公司的總經理共同主持項目統籌會議，監察項目進度並協助統籌其他政府部門以促進項目下各項工程的推展。
- (v) 署長每月主持監委會會議，由港鐵工程總監及其團隊出席。會議基於港鐵公司提交的每月進度報告以及其他資料，商討項目進度等事宜。署方每當察覺到有滯後情況，便會要求港鐵公司解釋滯後或了解導致整體延誤原因，及提供進行緩解措施以追回進度的措施。

18. 總括而言，在推展項目期間，高鐵香港段項目曾在不

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<sup>1</sup> 委託協議訂明，協議雙方均可透過以書面通知對方的形式，建議對委託計劃作出實質修改。提出一方如欲進行其書面通知內建議的實質修改，雙方均須盡力就擬議實質修改所涉範圍和幅度，以及此等實質修改對委託費用和委託計劃可能造成的影響達成協議。



同時間遇到了引致工程滯後的事宜，而港鐵公司都有進行緩解措施去彌補延誤。當較預設的時間表相比有可能導致整項工程延誤，港鐵公司經路政署要求下制定追回進度的措施，以確保整體進度得以維持。

19. 一直以來，政府竭力希望確保高鐵香港段項目如期完成，我們亦深明公眾對此事的關注。附件G所載項目時序表詳列在二零一零年一月至二零一四年四月期間政府對高鐵項目的監察工作。下文敘述政府在二零一零年一月至二零一四年四月期間的主要跟進工作。

## 二零一零年一月至十二月

20. 首次監委會會議於二零一零年三月二十六日舉行，會議通過了監委會的職權範圍和成員名單。

21. 在二零一零年五月二十八日舉行的第三次監委會會議上，根據當時的工作進度，位處內地的一段跨境段隧道有可能出現六個月滯後。路政署建議稍後與相關的內地單位討論此事。西九龍總站的設計工作、南昌站上蓋物業地基的移除和重置工程，以及西九龍總站的地基工程出現了輕微滯後。

22. 二零一零年九月八日舉行的第六次監委會會議上，港鐵公司報告正密切監察西九龍總站的建築設計以及解決未完成的設計事宜。西九龍總站的地基和地下連續牆工程雖有一個月的滯後，惟亦正進行緩解措施。在南昌站上蓋物業地基的移除和重置工程方面，亦有進行措施以收復其兩個月的滯後。

23. 二零一零年十一月二十六日舉行的第九次監委會會議上港鐵公司報告，西九龍總站的地下連續牆工程令人關注，正採取行動以解決問題。此外，港鐵公司報告南昌站上蓋物業地基的移除和重置工程有五個月的滯後；以及西九龍總站的地基工程有一個月的滯後。路政署要求港鐵公司制訂措施追回滯後的情況。

## 二零一一年一月至十二月

24. 在二零一一年四月二十九日舉行的第十三次監委會會議上，港鐵公司報告南昌站上蓋物業地基的移除和重置工作有

39週滯後。路政署要求港鐵公司制訂措施追回滯後的情況。港鐵公司報告其他合約的滯後相對輕微，並預期接續的數個月可追回進度。

25. 二零一一年七月二十九日舉行的第十六次監委會會議上港鐵公司報告，南昌站上蓋物業地基的移除工程進度略見改善，但仍滯後於目標日期。另外，港鐵公司報告內地承建商表示其隧道鑽挖機將滯後七個月才會到達深港邊界。

## 二零一二年一月至十二月

26. 二零一二年二月二十四日舉行的第二十一次監委會會議上港鐵公司報告，整體工地進度約滯後兩至三個月，並將會投入措施收復進度。路政署提醒港鐵，承建商應肩負準時完工的責任，而就落實任何追回進度的措施，若涉及額外開支，都應以審慎的態度去處理。

27. 二零一二年三月三十日舉行的第二十二次監委會會議上港鐵公司報告，須於未來兩個月與承建商商定追回進度的措施，從而可依照實際可行的計劃監察進度，以及讓整個項目可依時完工。

28. 二零一二年七月，港鐵公司行政總裁致函運輸及房屋局局長，指港鐵公司維持其目標，即一如計劃，在二零一五年完成所有工程並讓高鐵香港段通車。連同其他事項，他指出跨境段隧道是其中一項需要「我們集中注意」的挑戰。運輸及房屋局回應表示路政署已向內地相關單位表達對跨境段隧道的關注。

29. 二零一二年八月，路政署與內地相關單位會面，表達對跨境段隧道的進度的關注，後者承諾會採取措施加快工程。

## 二零一三年一月至六月

30. 在二零一三年一月二十五日舉行的第三十一次監委會會議上，港鐵公司表示西九龍總站有滯後情況，但應能於二零一三年中或以前追回進度。跨境段隧道的滯後情況約一年，但會影響港方隧道工程(編號826合約)的工程計劃。港鐵公司正在探討措施壓縮編號826合約的工程，並加快其他工作以抵銷

滯後的情況，從而讓工程於二零一五年完成。

31. 二零一三年三月，路政署收到港鐵公司和高鐵內地段擁有的法人企業提交一份匯報跨境段隧道進度的報告。根據該份報告，該兩部正向深港邊界鑽挖的隧道鑽挖機正處於約十至十一個月的滯後，而高鐵隧道的測試和試行運作或可於二零一五年七月展開，並表示正在探討加快進度的措施。

32. 根據港鐵公司提供的報告，截至二零一三年四月，整體進度有約七個月的滯後，而他們正與承建商商討緩解措施以追回進度。縱然出現滯後情況，港鐵公司仍然維持二零一五年完成高鐵項目的目標，並表示鑑於大部分的隧道工程會於接續數月完工，因此預期進度會有顯著改善。鑑於港鐵公司對工程可按照目標完成表現有信心和決心，加上他們積極進行與承建商擬定緩解措施以追回進度，以及工作應有空間改善，署長按其專業判斷及過往其他大型工程的經驗，不能排除港鐵公司有可能達致目標。

33. 二零一三年五月七日，有傳媒報道高鐵項目將延誤一年並嚴重超支。該報道指項目的主要延誤源於西九龍總站的建造工程，導致整個項目延誤至少一年和超支達44億元。根據港鐵公司提交的資料，政府其時回應傳媒指高鐵香港段的完工日期維持於二零一五年。

34. 運房屋和路政署鑑於對事件的關注，要求港鐵公司審視最新情況，並在立法會鐵路事宜小組委員會(鐵路小組)於二零一三年五月二十四日舉行的會議上匯報情況。

35. 二零一三年五月二十三日，運房局、路政署以及港鐵公司舉行了會議，審視項目的最新進度和財務狀況。鑑於港鐵公司對政府的保證，政府向鐵路小組提交編號CB(1)1072/12-13(03)的文件(載於**附件H**)以供討論。在文件第二段，政府述明：

*「目標是於二零一五年竣工。我們一直密切監督港鐵公司的工程，以確保項目能如期完成、不會超出核准工程預算，以及符合施工質素的要求。我們會繼續與相關各方緊密合作，以期工程可以按預算並如期完成。」*

36. 在二零一三年五月二十四日的鐵路小組會議中，運輸及房屋局局長表示，在工程的某一階段期間稍有滯後並不足為奇。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，需要各方面周密的協調。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(局長的開場發言見附件I)。

37. 在鐵路小組上述會議後，署長在二零一三年五月三十日舉行的監委會會議上提醒港鐵公司，若有關滯後情況會導致項目未能在目標日期完工，必須盡早通知路政署。港鐵公司承諾會這樣做，並表示會繼續密切監察情況。

38. 在二零一三年六月二十八日舉行的監委會會議上，港鐵公司匯報將會考慮採取一系列短中期緩解措施以趕上項目進度，並會安排會議向路政署匯報經修訂的西九龍總站工程計劃和整體總綱計劃。港鐵公司其後於二零一三年八月及九月向路政署報告有關情況(見下文第四十段)。

## 二零一三年七月至十月

39. 運房局邀請路政署與港鐵公司，在二零一三年七月二十三日，向該局匯報高鐵香港段項目的工程進度。會議上港鐵公司匯報了各項主要工程包括跨境段隧道在內的最新情況。港鐵公司預測跨境段隧道的土木工程會於二零一五年三月完成，而貫通邊界的測試會於二零一五年七月開始。港鐵公司告知運房局，高鐵香港段正式投入營運服務的目標日期為二零一五年十二月。附件J載有相關投影片的節錄。運房局提醒港鐵公司須竭盡所能確保項目按預算如期完工。

40. 二零一三年八月及九月，港鐵公司向路政署報告，以探討高鐵香港段項目可否「局部啟用」，即項目工程的主要部分於二零一五年年底完成，而測試和試行運作則於各段隧道完工後隨即展開，以期高鐵香港段於二零一五年年底前局部啟用(以應付開通初期的需求)。在局部啟用的情境下，主要的鐵路設備以及十五條路軌中有六條應準備好提供客運服務。由於港鐵公司未能提供足夠的資料，證明局部啟用方案的可行性，路政署未有同意該方案，並要求港鐵公司提交更多資料，以便向運房局提交報告。

## 二零一三年十月至十一月

41. 在二零一三年十月二十二日，根據路政署的資料，運輸及房屋局向局長匯報跨境隧道工程繼續有滯後。若果滯後不能追回，高鐵香港段隧道的測試要在二零一五年十月才能開始，高鐵香港段的開通日期會因此而受到影響。同時，港鐵公司最近建議一個「局部啟用」的方案，即在二零一五年時，十五條路軌中有六條可供使用，而在二零一六年中的「首日開通」，會有十條路軌可供使用。這個建議是考慮了在不同合約中正進行的追回進度措施，而評估工程進度得出的結論。西九龍總站及跨境隧道是高鐵香港段完工的關鍵。若任何一項有進一步滯後，高鐵香港段的通車日期將受到影響。港鐵公司正在研究緩解延誤的措施，當中包括調配不同工序，分段進行機電裝備工作。在考慮最新的合約索償狀況，當時的評估是項目不會超支。有見及這些最新發展，運輸及房屋局要求港鐵公司及路政署，就項目最新進展作出詳細匯報。

42. 在二零一三年十月二十九日舉行的監委會會議上，港鐵公司報告在西九龍總站整體有九個月的滯後，以及合約編號826的隧道有十一個月的滯後。路政署表達關注，而港鐵公司表示他們正在努力趕上進度，以期達至該公司建議的局部啟用計劃目標。路政署要求港鐵公司提供高鐵香港段局部啟用計劃方案的資料，以便當局評估及監察實際進度。

43. 路政署(由署長代表)和港鐵公司(由工程總監代表)在二零一三年十一月八日被邀向運房局常任秘書長(運輸)匯報高鐵項目的最新情況。港鐵公司在會上匯報高鐵香港段包括，西九龍總站及826隧道工作的建造進度。會議上港鐵公司指西九龍總站可於二零一五年十二月局部投入服務。826隧道工程要到二零一五年十月才完成，高鐵香港段的測試(一般需時三個月)只能於二零一五年十月開始，而由於需要另外三個月進行試行運作，二零一五年底啟用的目標或因而受到影響。運房局質疑若高鐵香港段的測試在二零一五年十月才能展開，高鐵香港段在二零一五年底通車的可行性很低。若屬實，我們必須盡快向公眾公布有關情況。二零一三年十一月二十日，路政署再向局長作出類近簡報。基於對工程進度的評估，運房局打算在二零一三年十一月二十二日舉行的鐵路小組會議上說明「高鐵香港段在二零一五年後才可投入服務的可能性」，並

解釋工程進度的最新情況和所遇到的實際困難。

44. 翌日，二零一三年十一月二十一日，港鐵公司行政總裁致電局長，表示不同意向鐵路小組報告二零一五年通車有所延遲，並強調所有工程仍有可能完成而高鐵可在二零一五年年底投入服務。

45. 在局長指示下，運房局代表(由常任秘書長(運輸)帶領)、路政署代表和港鐵公司代表(由行政總裁帶領)隨即在二零一三年十一月二十一日傍晚舉行緊急會議。港鐵公司在會上強調，維持二零一五年完工這項目標至為重要，否則該公司無法向承建商施壓，要求他們為項目趕工。港鐵公司補充，高鐵香港段仍有可能在二零一五年內完工並投入服務。運房局指出，根據港鐵公司早前所作的匯報，高鐵香港段項目的西九龍總站和跨境隧道工程均遇到難題，詢問港鐵公司為何仍認為高鐵可在二零一五年完工並啟用。港鐵公司表示，他們正在努力尋求解決方法，以達到目標；港鐵公司相信在二零一五年至少可以用單軌雙向行車<sup>2</sup>。運房局指出單軌雙向行車不符合政府的要求，因此不能接受。運房局重申，儘管局方理解港鐵公司須繼續以二零一五年完工這個目標來向承建商施壓要求趕工，惟政府需要的是與現實情況相符的評估，並須在未能達標時即時告知公眾。運房局表示，按照港鐵公司提供的資料，高鐵香港段須待二零一五年十月才可展開測試，質疑高鐵如何能在二零一五年啟用。局方留意到，跨境隧道工程出現滯後，這將會阻延香港段的隧道工程，對港鐵公司造成困難。港鐵公司回應謂，一俟內地段的跨境段隧道完工並開始於香港境內進行，該公司便可評估其影響。運房局提醒港鐵公司不要高估自己克服困難的能力。與會者經相當討論後最後同意，儘管在現階段仍應維持二零一五年完工的目標，在翌日舉行的鐵路小組會議上必須坦誠說明高鐵香港段項目面對的難題。與此同時，港鐵公司須向政府提供清晰的計劃，說明如何達到目標。

46. 在二零一三年十一月二十二日舉行的鐵路小組會議上，政府因而述明根據港鐵公司的最新評估，高鐵項目的主要工程應可在二零一五年內完成，而在工程完成後，進行測試和試行運作，一般需時六至九個月。高鐵香港段須待相關政府部門審批測試結果後才可開通，以確保鐵路服務安全可靠。

<sup>2</sup> 單軌雙向行車指在一條隧道內北行及南行列車輪流在西九龍總站及內地境運行。

47. 二零一三年十一月二十九日，於上述鐵路小組會議後舉行的項目監委會會議上，港鐵公司簡報擬議的啟用方案，當中訂明所有土木及機電工程的目標完工日期為二零一五年六月，然後進行測試和試行運作。署長不滿意方案過於簡單，同時只列出目標完工日期而沒有任何里程碑用以審核及監察目標日期能否達到。港鐵公司承諾再安排另一簡報會，就擬議的高鐵啟用安排提供更多詳請，包括西九龍總站的外部工程和公共地方的工程情況。

## 二零一三年十二月至二零一四年四月

48. 其後，在二零一四年一月和二月舉行的監委會會議上，署長繼續就高鐵香港段項目進度較原定時間表滯後表示關注。港鐵公司表示會檢討項目整體情況，以期在二零一四年四月向路政署匯報有關啟用安排的最新預測和通車時間表。署長重申，除了工程進度外，財務方面的監控也同樣重要，以確保項目能夠按照核准預算完成。在二零一四年二月的監委會會議上，港鐵公司表示一直與承建商緊密合作，採取措施以趕上工程的計劃進度。

49. 在二零一四年三月十八日舉行的項目統籌會議上，港鐵公司方面仍指出高鐵項目的目標完工日期為二零一五年。

50. 在二零一四年四月二日舉行的監委會會議上，港鐵公司在回應路政署關注工程持續滯後時表示，該公司仍然正在檢討項目整體的情況，並已計劃在二零一四年五月七日為路政署安排簡報會，闡述項目的預計試行運作日期和最新財務狀況。在同一會議上，港鐵公司報告謂石崗工地一條排水道後面的斜坡輕微倒塌，導致隧道下端水浸，淹浸向北推進的隧道鑽挖機，承建商正評估鑽挖機的損毀程度。路政署要求港鐵公司匯報事故的詳細調查結果，並評估對工程費用和項目進度的相關影響。在草擬本文件時，港鐵公司仍未遞交報告。

51. 二零一四年四月十二及十三日(周末)，港鐵公司行政總裁和主席分別急電局長，告知局長高鐵香港段項目未能在二零一五年完工。港鐵公司行政總裁表示高鐵香港段工程只可於二零一六年年尾完成，並於2017年投入服務，更多詳情有待核實。鑑於港鐵公司過去多個月屢次向運房局和路政署不同工作

層面保證，縱然進度出現滯後，仍可透過追回進度的措施達至2015年完工的目標，局長自然感到驚訝，並着令港鐵公司就高鐵工程進度提交全面評估報告，包括就工程重大延誤提供具體而完滿的解釋。局長也責成路政署署長向他提交一份獨立審視工程進度的評估報告，包括評估工程出現重大延誤的原因。

52. 運房局在二零一四年四月十四日召開緊急會議，出席者包括港鐵公司主席、行政總裁和工程總監，以審視高鐵項目的最新情況，雙方同意運房局(局長本人)和港鐵公司須於翌日告知公眾，並須在鐵路小組原定於二零一四年五月二日舉行的會議上提交報告，交代情況。

### 進度延誤的成因

53. 路政署署長已評估現時高鐵香港段工程的進度，詳情載於其報告的第五及第六部分(附件C)。有七份土木工程合約值得注意-合約編號810A、810B及811B為建造西九龍總站及其連接隧道工程；以及合約編號820、823A、824及826隧道工程<sup>3</sup>。縱然如上文所述已經/正在採取措施去追回進度，這些合約仍有不同程度的延誤。署長認為有數項事宜影響各項工程合約的進度，繼而產生延誤。不利的地質情況(而當中有部分不能遇見)是這些事宜的一個共通的主要原因，對工程產生全面影響，包括鑽挖隧道工程、鑽爆隧道工程、地下連續牆工程和挖掘工程。其他原因包括承建商的資源、工藝及工作流程問題，工序之間的銜接事宜及承建商的統籌問題、地下公共管線改道、臨時交通改道的限制，以及惡劣天氣等等。

54. 在整個高鐵工程項目中，港鐵公司在每月的報告中，有報告各工程合約進度與原定計劃時間表的比較，以百分比作顯示。但因為工程進展有所滯後，必須推出緩解措施以追回進度。在這些過程中，港鐵公司會與承建商一同商討，就指定個別關鍵工序，

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<sup>3</sup>合約編號 810A - 西九龍總站(北)  
合約編號 810B - 西九龍總站(南)  
合約編號 811B - 西九龍總站連接隧道(南)  
合約編號 820 - 美荔道至海庭道隧道  
合約編號 823A - 大江埔至謝屋村隧道  
合約編號 824 - 牛潭尾至大江埔隧道  
合約編號 826 - 皇崗至米埔隧道



重訂計劃時間表(revised target programme),路政署亦以此時間表繼續監察,展開工序。縱然個別合約出現滯後的現象,並不等於整個計劃的完工期一定會出現延誤。整體進度亦是一個重要的考慮。根據在其他大型工程的經驗,承建商可以採取緩解措施去追回滯後的進度。加入加班加機械的方法當然是其中的一種緩解措施,最重要的是避免關鍵工序的滯後情況影響緊接其後工序的進行。透過重訂工序計劃表及將大型工序分拆,亦可以將一些已滯後的工序變為非關鍵。例如挖掘工序如果出現滯後,未能全部如期完成,但祇要安排好挖掘工作的先後次序,使關鍵的後續工作,例如是建造車站結構,能在已完成挖掘的位置盡快進行,挖掘工程完工期的滯後情況可得到紓緩,而不會影響最終整個高鐵香港段完工日期。

55. 港鐵公司進行了彌補和收復進度的措施以期解決這些問題。這些緩解措施包括使用替代工程方法、調整施工程序、加入額外資源等。然而,截至二零一四年四月初,各個工程環節仍然存在滯後情況,而港鐵公司仍未能顯示有甚麼進一步彌補措施可趕回延誤進度。港鐵公司早前曾承諾向路政署顯示該公司可如何能於二零一五年完成工程,惟其後如事態發展,港鐵公司於四月十二日告知政府,二零一五年完工的目標已不能達到。

56. 正如路政署署長在其報告第七部分闡述,在二零一四年三月底的水浸事件前,合約810A及826對整個項目的完成較為關鍵部分。在水浸事件後,合約823A亦成為其一關鍵部分。就合約810A而言,進度一直受到不利的地質情況、地下公共管線改道引起的複雜性工序、協調以及施工及人手安排等問題所影響。港鐵公司須妥善處理有關問題,特別是加快移除近西九龍總站北端的石層。如果合約仍存在的滯後未能追回,將直接影響高鐵香港段的完工。另外,合約826的進度,主要受到從皇崗出發的鑽挖機的延遲到達邊界所影響。若港鐵公司未能如期加快鑽挖機的速度,亦會直接影響高鐵香港段的完工。至於合約823A,進度亦受兩台鑽挖機緩慢的鑽挖速度影響。其中一台鑽挖機受水浸令事情惡化,若該台鑽挖機不能恢復運作,並盡快採取收復進度措施,這合約可能成為完成工程的最關鍵一環。

## 項目完成日期

57. 路政署在二零一四年四月十五日港鐵公司的記者招待會後，要求港鐵公司提交有關新完工日期(二零一六年)的詳細工作計劃。但是，直到我們草擬這份文件時，港鐵公司仍未有提供資料。在署長的報告中，述明關於西九龍總站北部的合約810A是高鐵香港段完工的重要一環，項目非常複雜及牽涉不同類型尚待處理而又互為影響的工序。直至港鐵公司能夠提供詳細工作計劃顯示如何能夠解決銜接問題以及預定的工作進度(assumed production rates)是否合理，路政署未能評估2016年底的完工日期是否可以達到。

## 責任

58. 由於政府在撰寫這份文件時仍未收到港鐵公司的全面評估報告，我們未能評論港鐵公司有否違反其在委託協議下的義務，以及若有違反，政府可以/應該如何就其違反責任作出處理。以下就港鐵公司在履行高鐵香港段項目的責任事宜，提供一個概要說明。

59. 委託協議訂明，港鐵公司須竭盡所能，按照委託計劃完成或促使完成委託工作；以及盡量減少委託計劃因任何修改而出現的任何延誤或其他後果。不論何時若港鐵公司嚴重或持續違反(或政府合理地懷疑港鐵公司嚴重或持續違反)該公司在委託協議下的任何實質法律責任，政府有權核實港鐵公司有否遵行該公司在委託協議下的責任。

60. 港鐵公司在行事上如有任何錯誤或遺漏，以致構成違反委託協議和導致委託工作必須重新執行，港鐵公司在政府要求下必須自費重新執行(或促使從新執行)該等委託工作，達到令政府合理滿意的程度。

61. 若出現延誤而該延誤達至不被任何對委託計劃的更改或調整所涵蓋的程度，該延誤可構成港鐵公司違反其在委託協議下的責任，而政府可就此項違反向港鐵追討一般性損失(general damages)。

62. 此外，港鐵公司就數項事宜，包括委託工作(Entrustment Activities)有關提供項目管理服務，向政府保證，這些委託工

作的進行，應達至一個專業而能勝任的管理人員在合理的期望下應所具備的技能和看管水平，而其角色包括統籌、行政、管理及監督設計和建造工程。若今天的工程延誤包括港鐵公司違反其任何所保證的事項，政府或可因港鐵公司違反其保證而向其展開追討。

63. 再者，作為一般契約法律事宜來說，若能證明港鐵公司違反了任何其他該公司應負的合約責任，政府或可因其違反合約而展開追討。

## 項目開支

64. 截至二零一四年二月底，高鐵香港段項目已批出合共40份主要建造合約<sup>4</sup>，連同其他小型合約，合計總值達450.2億元；當中包括隧道工程合約約224.5億元、西九龍總站建造合約約145.9億元及機電工程合約約79.8億元。已批出合約的累計支出為353.61億元。在高鐵香港段項目的撥款中，我們已預留款項以應付建造過程中未能預見的情況。按二零零九年價格計算，為高鐵香港段項目預留的應急費用約為54億元。截至二零一四年三月底，應急費用的結餘約為37億元。政府支付給港鐵公司項目管理費會維持於\$45.9億元，不會增加。

65. 因應事情的最新發展，政府已再度要求港鐵公司盡量減少延誤和把任何額外開支控制於核准預算內。

## 未來路向

66. 一直以來，政府的目標都是在二零一五年內完成高鐵香港段的工程。待收到港鐵公司的全面評估報告後，我們會嚴格審視港鐵公司建議的新完工日期是否可行，並會及早向鐵路小組和公眾作出匯報。當我們能夠對相關事宜得出更清晰的看法時，我們亦會進一步向鐵路小組匯報港鐵公司根據委託協議有關工程項目的進展等事宜，以及整體高鐵香港段工程項目的開支。

67. 雖然項目延誤有時因工地的複雜性、天氣情況，和各項工程問題而無法避免，但是我們十分重視主要運輸基建的進

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<sup>4</sup> 主要建造合約是指個別價值逾 5,000 萬元的合約。

度。因此我們一定會就高鐵香港段的嚴重延誤和出現的種種問題追查成因，以確保將來不會重蹈覆轍。

68. 鑑於公眾廣泛關注高鐵香港段延誤及其背後原因，而此亦可能反映出港鐵公司在項目管理和開支監控制度和方式，以至現時路政署和港鐵公司兩者的項目監察機制的任何問題，政府已決定成立一個獨立專家小組，對現有制度和做法以及相關事宜進行全面檢視，查找問題及其成因，並提供改善建議。港鐵公司董事局已對此表示全面支持，並承諾在相關法律安排下作出配合。獨立專家小組的成員和職權範圍將於稍後公布。

運輸及房屋局  
二零一四年四月

## 新聞公報

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運輸及房屋局局長會見傳媒談話全文

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以下是運輸及房屋局局長張炳良教授今日（四月十五日）在添馬政府總部西翼大堂，就廣深港高速鐵路香港段工程會見傳媒的談話全文：

各位好。大家都知道政府委託港鐵公司進行廣深港高速鐵路香港段的工程，即簡稱高鐵香港段。這項工程於二〇一〇年一月動工。我們在去年十一月二十二日向立法會鐵路事宜小組委員會匯報這項工程的進展時，當時我們是基於港鐵公司提供的進度資料，說明我們的目標是於二〇一五年內完成高鐵香港段的工程，隨後大約需要六至九個月的時間進行必須測試和試行運作，之後便會正式通車。

但是在上周末，港鐵公司主席與行政總裁通知我，表示依照港鐵公司最新掌握的施工進度，高鐵香港段的工程將會有一定的延誤，未能在二〇一五年完成。

對這個消息我是感到非常驚訝和意外。我已要求港鐵公司盡快就工程進度向政府提交全面評估的報告，並盡快向公眾交代最新的情況。我知道港鐵公司於今日稍後會舉行記者會。

此外，我亦已責成路政署署長就高鐵工程進度作出獨立的審視和評估，向我提交報告。

我們與港鐵公司會在下一個月，即五月二日的立法會鐵路事宜小組委員會（會議）上交代詳情。

記者：造價方面，（工程）延遲會令造價相差多少？其實延遲的消息一早已經有，為何你會對這消息感到驚訝？

運輸及房屋局局長：這個（工程）延遲消息是在剛過去的周末，即數天前我才收到。我自己所以感到非常驚訝，因為直至去年（年）底為止，我們收到港鐵的定期報告，當時港鐵給我們的分析，對工程進展的評估，是在二〇一五年內完成有關的工程，然後當然有一段時間，即六至九個月，作為測試和試運行，跟着便會通車。現在我獲知道的延誤，是令到有關工程是不可以在二〇一五年完成。當然細節方面，（工程）具體延遲多久、不同導致延誤的成因等等，港鐵需要向我詳盡解釋，我要求他們盡快向我提交全面的評估，我們亦會在下月初的立法會鐵路事宜小組委員會作出詳細的交代。

（請同時參閱談話全文的英文部分。）

完

2014年4月15日（星期二）

香港時間16時11分

## 新聞稿

## Press Release

編號零二九/一四 二零一四年四月十五日

## 高鐵香港段項目修訂工程時間表

因隧道鑽挖機在暴雨中嚴重損壞，影響了高鐵香港段的工程進度。加上早前各種不可預見的情況，高鐵工程的竣工時間，將延至 2016 年，配合全綫測試及試運行後，高鐵香港段可於 2017 年投入服務。

港鐵工程總監周大滄先生指出：「高鐵香港段是一項非常複雜的大型工程，建造工程任務極為艱巨。自項目開展以來，我們持續面對各項挑戰，對我們的工程進度造成一定壓力。我們一直專注建造工程，以調整工程設計和修正施工工序來追補時間，但以鑽挖機在目前狀況，工程將難以於 2015 年完成。」

在 2014 年 3 月 30 日的一場黑雨中，暴雨將泥土和碎石沖入工地，淤塞地面去水渠，雨水從位於元朗連接七星崗和大江埔的隧道進入，再流入隧道鑽挖機施工的隧道。

清理工地後，港鐵工程隊伍、承建商和隧道鑽挖機生產商詳細檢查及評估該部隧道鑽挖機的損壞程度，結果顯示鑽挖機若要重新操作，需要進行大型維修及全面更換精密的電子零件。目前港鐵正進行進一步的研究，探計應否修復該鑽挖機或採取其他鑽挖方法，以完成鑽挖餘下的隧道段落。預計該段隧道的工程會出現達九個月的延誤。

高鐵項目另外兩個關鍵位置亦正面對極嚴峻的挑戰，其中一個是西九龍總站工地極端困難的地質情況。總站地底的岩石層比原來預期更高水平，因而需要更多時間進行挖掘。挖掘進度亦因遇上孤石受阻，大量未有記錄的公共管綫也需先遷移，才能繼續進行挖掘。

第二個關鍵位置是跨境段隧道穿越受保護濕地的複雜地質。此地帶存著不少溶洞，但由於未能作深入勘探，隧道鑽挖工作需要謹慎進行，以處理可能遇上的困難。

周先生補充說：「高鐵工程是一項極大的挑戰。地質情況困難、不可預期的障礙和黑色暴雨，都影響了我們的進度。我們致力盡早完成工程工的同時，在工地管理和工人的安全方面上，亦需嚴格堅守港鐵『安全第一』的原則。」

「綜觀以上種種，我們需要為高鐵香港段工程項目訂立新時間表，主要工程將於 2016 年完成，經測試及試運行以確保列車運行安全後，高鐵香港段將於 2017 年投入服務。政府把此項目委託港鐵公司去興建，我們抱歉需要修訂工程的時間表。工程團隊會努力完成此項目，進一步鞏固香港的交通網絡。」

(完)

**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**



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## ANNEXES

Annex 1.1	List of Abbreviations
Annex 2.1	The proposed alignment of the Hong Kong Section of the Guangzhou – Shenzhen – Hong Kong Express Rail Link (XRL)
Annex 2.2	XRL Major Contract List (value >\$50M)
Annex 2.3	XRL Contract Demarcation Plan
Annex 3.1	Extract of a monthly progress report by the M&V Consultant
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Annex 4.1	Extract of Notes of Subcommittee on Matters Relating to Railways (RSC) meeting on 22 November 2013
Annex 4.2	Extract of Notes of Project Coordination meeting of 18 March 2014
Annex 5.1	Overall View of the Contract 810A Site
Annex 5.2	Road Network around Contract 810A Site
Annex 5.3	Extract of the Monthly Progress Report by the M&V Consultant for the month September 2012
Annex 5.4	Diagram showing the location of the failed slope and the flood water path
Annex 5.5	Photo showing the water mark left behind within the flooded tunnels

## **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 Annex 1.1.
- 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 WKT and the Approach Tunnels**

The WKT is located within a footprint of approximately 110,000 m<sup>2</sup> 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<sup>2</sup> 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:

<b>Contract No.</b>	<b>WKT and Approach Tunnels</b>
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.

<b>Contract No.</b>	<b>Tunnel Section</b>
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 (DH), 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 down (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) Excavation

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 plan 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 contractors 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

<b>Tunnel</b>	<b>Current progress (as at mid-April 2014)</b>
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:

<b>Tunnel</b>	<b>Current progress (as at mid-April 2014)</b>
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 2014 pending 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) On-going - Unfavourable geological conditions**

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) On-going - Contractor's Logistic Arrangement and Site Management**

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) Resolved - Unfavourable ground conditions

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) Resolved - Inclement weather affecting tunnel construction

Wet weather during bulk excavation had affected the ERS and approach tunnel construction.

(c) Resolved - Spoil disposal constraints



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 4<sup>th</sup> 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)

<p>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</p>	<p><i>Kan</i> 23/11/09                  S. H. LAM                  總工程師                  CHIEF ENGINEER</p>	<p>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</p>	<p>圖號 drawing no.                  HRWXRL002-SP0009                  版權所有 COPYRIGHT RESERVED                  鐵路拓展處 RAILWAY DEVELOPMENT OFFICE                  路政署                  HIGHWAYS DEPARTMENT</p>
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## **Annex 2.2**

**XRL major contract list**

**(value >\$50M)**

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

<b>Contract No.</b>	<b>Description</b>	<b>Award Date</b>	<b>Awarded Contract Sum (\$M)</b>
	<b><u>Tunnels</u></b>		
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
	<b><u>West Kowloon Terminus and Approach Tunnels</u></b>		
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

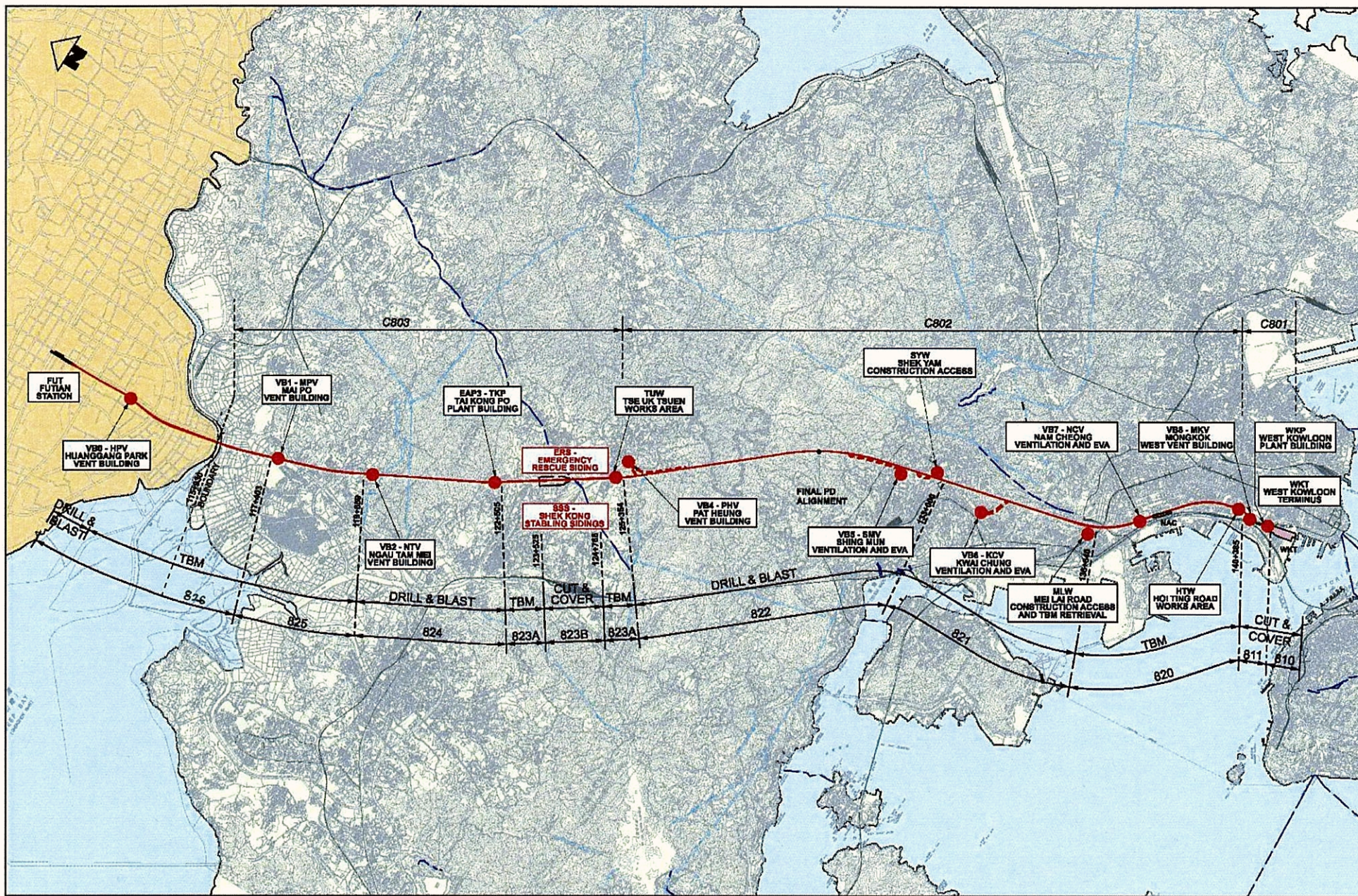
**E&M Contracts**

<b>Contract No.</b>	<b>Description</b>	<b>Award Date</b>	<b>Awarded Contract Sum (\$M)</b>
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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## **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

- 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.

- 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 Cheung will impact the access dates for P-way and E&M systemwide TRIP works south of Nam Cheung 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)

**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<sup>1</sup> 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).

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<sup>1</sup> 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.

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**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**

Encl. 1  
Encls. 2&3

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.

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.

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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 .....

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### 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.

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New Airport Projects Co-ordination Office  
Works Bureau  
November 1997

**Page 5 of Appendix**Enclosure 2ACP QUARTERLY REPORTJuly - 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

## Page 6 of Appendix

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%

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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

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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



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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

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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

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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.

**Page 12 of Appendix****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

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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.

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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

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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

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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



## Page 17 of Appendix

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.

## Page 18 of Appendix

- 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 CWRP 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.

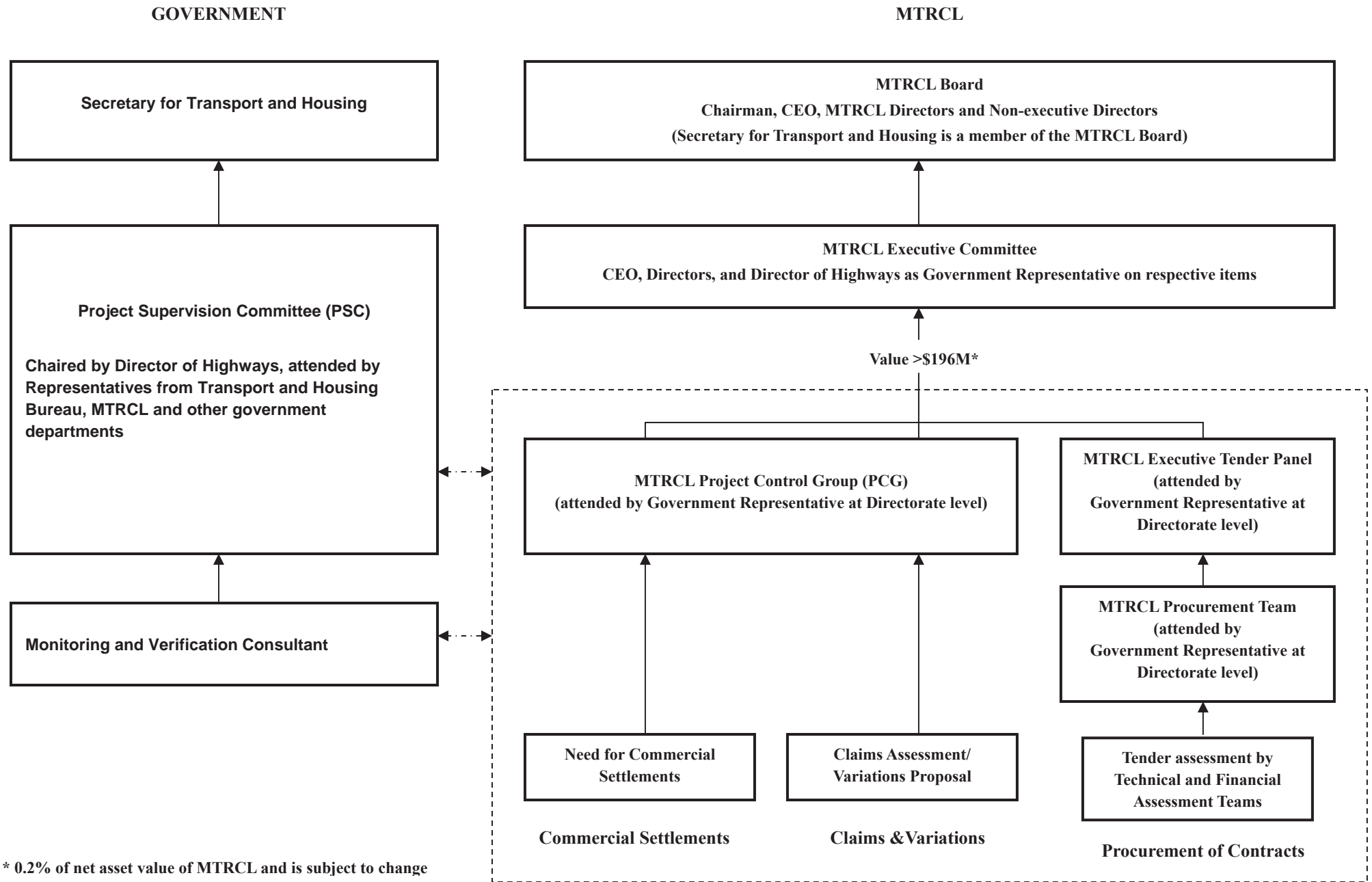
12. In short, we are confident that sufficient allowance exists within the overall ACP budget to meet ACP claims requirements.

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

ACP Project	Number	Award Value \$M	Works completed <sup>(2)</sup> \$M	Number	Number	Amount claimed originally \$M	Amount awarded \$M	Number <sup>(3)</sup>	Amount claimed \$M	Estimated contingent liability <sup>(4)</sup> \$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：陳恒鑾議員(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

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### 經辦人／部門

#### **I 通過會議紀要**

(立法會 CB(1)312/13-14 號 —— 2013年10月25日  
文件 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) —— 立法會議員於  
號文件 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
		<p>(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</p> <p>(c) 推行月台安全措施並不足夠，港鐵公司應徵詢顧問意見。</p> <p>港鐵公司回應時解釋：</p> <p>(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</p> <p>(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。</p>	
<i>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</i>			
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	<p>盧偉國議員詢問：</p> <p>(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</p> <p>(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。</p>	

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	<p>主席詢問：</p> <p>(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；</p> <p>(b) 高鐵香港段進行各項測試和試運行的時間表為何；及</p> <p>(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。</p> <p>政府當局回應時表示：</p> <p>(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</p> <p>(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可靠。</p> <p>港鐵公司解釋：</p> <p>(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</p> <p>(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。</p>	
015611 – 020333	主席 鍾樹根議員 政府當局 港鐵公司	<p>鍾樹根議員提出下列問題：</p> <p>(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</p> <p>(b) 香港段與內地段的信號系統如何協調。</p> <p>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。</p>	

## **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

<b><u>Item</u></b>	<b><u>Description</u></b>	<b><u>Action</u></b>
<b>1.0</b>	<b><u>Amendment to last meeting notes</u></b> Nil	
<b>2.0</b>	<b><u>Gazette / Land Resumption</u></b>	
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
<b>3.0</b>	<b><u>Design Issues</u></b>	
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 LCS D regarding the re-instatement of Nam Cheong Park. LCS D confirmed that a toilet and a park office would be required as part of the re-provision while some other facilities could be deleted. LCS D had agreed to provide the relevant details to MTR. MTR would prepare an estimate for the works involved and the	MTR/RDO

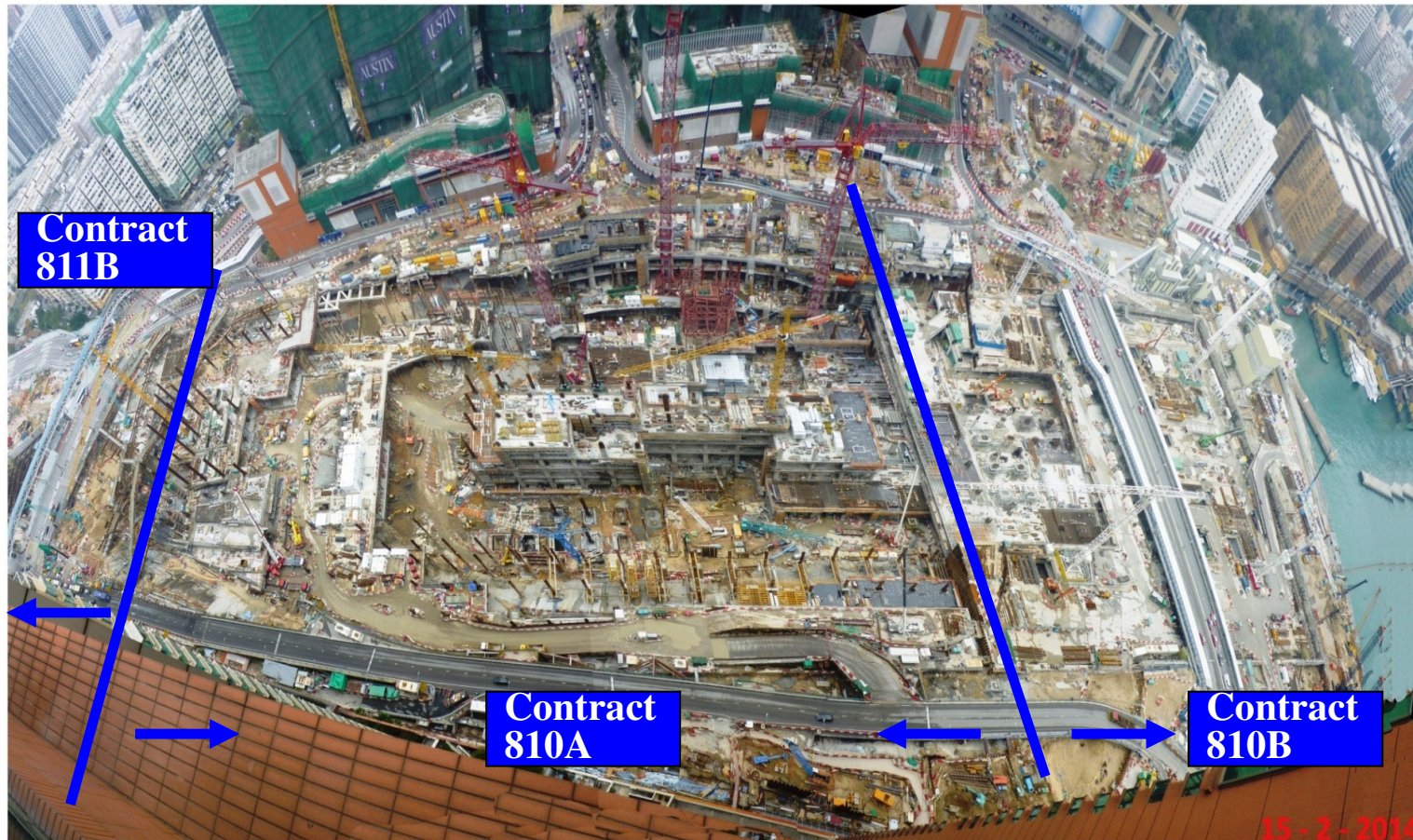
<u>Item</u>	<u>Description</u>	<u>Action</u>
	blasting work for 810A. The extension would cover the whole XRL project. While RDO had no comment on the proposed extension of services, MTR was reminded to include an escape clause on early termination of the service if the service was no longer needed before August 2015. MTR would brief RDO on the blasting proposal when ready.	
<b>8.0</b>	<b><u>Programme</u></b>	
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
<b>9.0</b>	<b><u>AOB</u></b>	
	Nil	
<b>10.0</b>	<b><u>Next Meeting</u></b>	
	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**



## 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 435,000m<sup>3</sup> out of 1,632,000m<sup>3</sup> (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

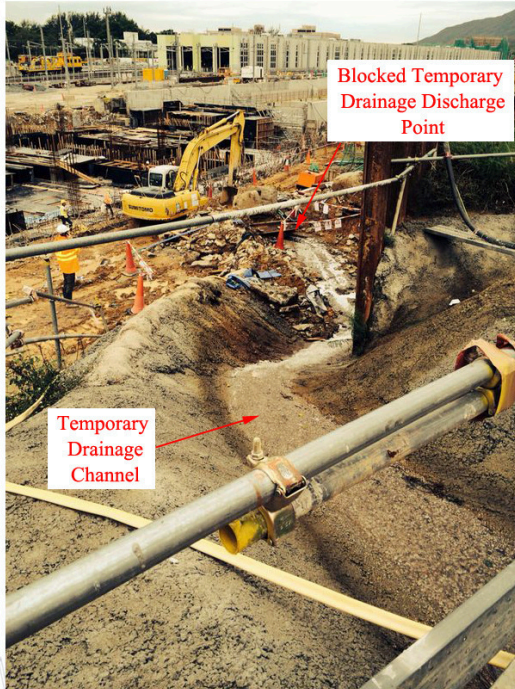
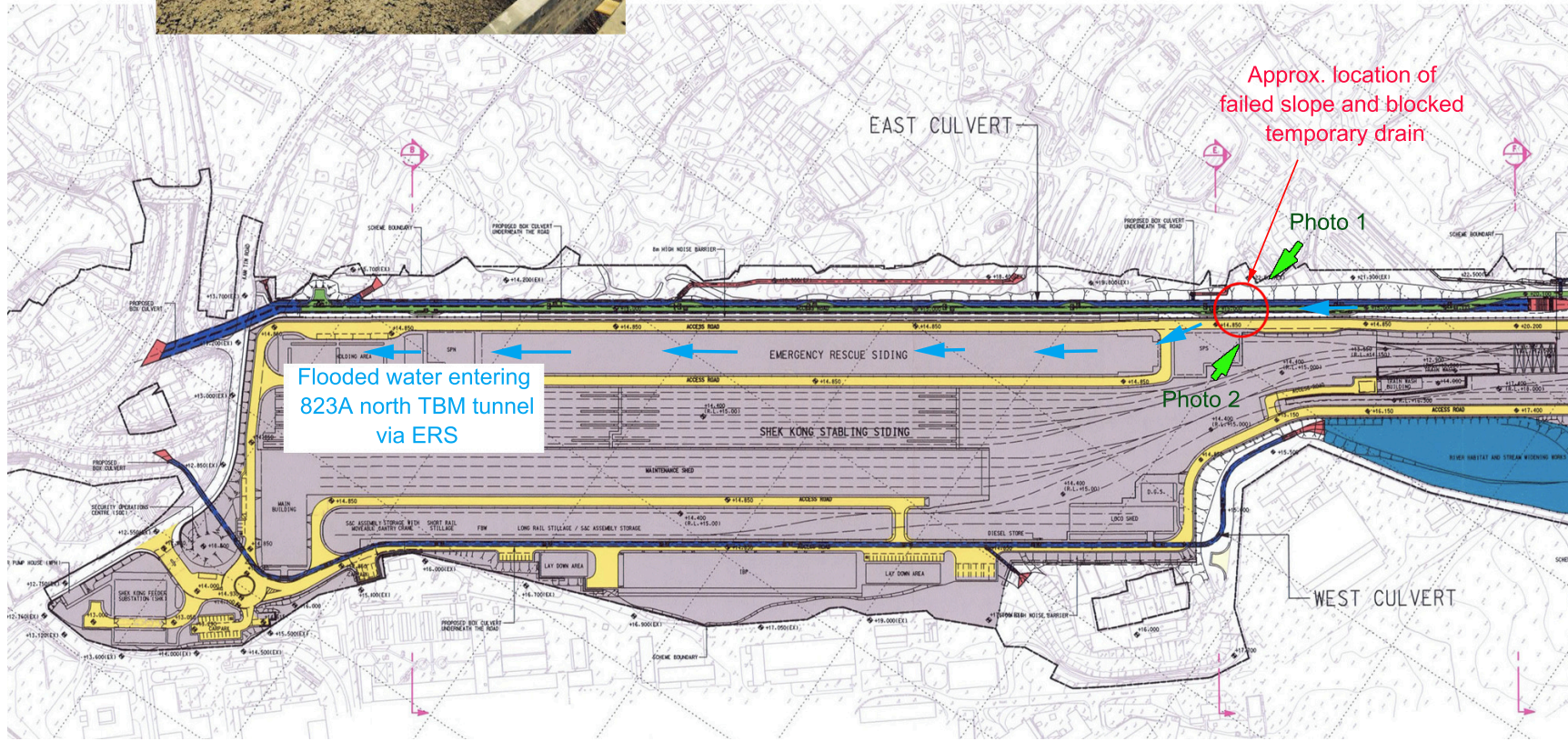


Photo 2





## **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

已批出的主要合約<sup>1</sup>

## 土木工程合約

#	合約編號	合約名稱	承包商／承建商	合約價值 (百萬元)	批出日期
1.	802	南昌物業地基移除及重置	新昌營造廠有限公司	333.89	2010年1月27日
2.	805	深旺道障礙物移除	保華建築有限公司	159.85	2010年1月27日
3.	820	美荔道至海庭道隧道	寶嘉-布依格聯營	3,668.90	2010年5月3日
4.	821	石蔭至美荔道隧道	寶嘉-布依格聯營	1,383.90	2010年7月12日
5.	822	謝屋村至石蔭隧道	禮頓建築(亞洲)有限公司	3,235.35	2010年3月10日
6.	823A	大江埔至謝屋村隧道	前田-中國建築聯營	1,502.49	2010年7月12日
7.	823B	石崗列車停放處及緊急救援處	前田-中國建築聯營	3,218.25	2010年10月20日
8.	824	牛潭尾至大江埔隧道	Kier-Kaden-OSSA Joint Venture	1,514.86	2010年8月13日
9.	825	米埔至牛潭尾隧道	五洋建設株式會社	1,683.62	2010年1月27日
10.	826	皇崗至米埔隧道	中國鐵道建設(香港)有限公司-新昌營造廠有限公司-中鐵十五局集團有限公司聯營	1,690.87	2010年3月10日
11.	803A	西九龍總站垂直隔牆(地盤甲)	法國地基建業公司	461.24	2010年1月27日
12.	803B	西九龍總站樁柱(地盤甲-北)	泰昇地基工程有限公司	497.35	2010年3月10日
13.	803C	西九龍總站樁柱(地盤甲-南)	惠保-俊和聯營公司	321.21	2010年1月27日
14.	803D	西九龍總站垂直隔牆及樁柱(西九文化區)	法國地基建業公司	819.05	2010年1月27日
15.	810A	西九龍總站(北)	禮頓-金門聯營	8,910.36	2011年10月19日
16.	810B	西九龍總站(南)	聯歐沃-新昌-保華聯營	3,320.62	2011年1月12日
17.	811A	西九龍總站連接隧道(北)	Bachy Soletanche - Laing O'Rourke Joint Venture	1,039.77	2010年5月3日
18.	811B	西九龍總站連接隧道(南)	Gammon - Leighton Joint Venture	2,883.25	2010年8月13日
19.	815A	鐵門、門框及五金供應	怡和機器有限公司	99.36	2012年5月9日
20.	815F	西九龍總站公眾洗手間裝修工程	宏宗建築有限公司	53.10	2013年9月9日

<sup>1</sup>主要合約是指合約價值逾 5 千萬元的已批出合約。

## 機電工程主要合約

	合約編號	合約名稱	承包商／承建商	合約價值 (百萬元)	批出日期
1.	816A	西九龍站之環境控制系統	新菱冷熱工業株式會社	782.78	2011年12月9日
2.	816B	西九龍站之樓宇設備控制系統	Johnson Controls Hong Kong Ltd.	59.61	2011年12月9日
3.	816C	西九龍站之低壓供電系統	新菱冷熱工業株式會社	549.63	2011年12月9日
4.	816D	西九龍站之消防、供水及排水系統	Leighton - Chubb E&M Joint Venture	663.64	2011年12月9日
5.	830	軌道及接觸網系統	俊和 - 中國中鐵 - 昆士蘭鐵路聯營	1,168.66	2011年7月6日
6.	840	動車組	南車青島四方機車	1,744.02	2012年3月9日
7.	841A	訊號系統 - 軌旁設備	北京和利時系統工程有限公司	307.82	2012年3月9日
8.	841B	訊號系統 - 車載設備	北京和利時系統工程有限公司	182.07	2012年3月9日
9.	843	隧道環境控制系統	GAS Joint Venture	259.85	2011年5月3日
10.	846	軌旁設備	新菱冷熱工業株式會社	294.65	2011年8月10日
11.	847	升降機	通力電梯(香港)有限公司	175.12	2011年9月6日
12.	848	自動扶梯與自動人行道	蒂森克虜伯電梯(香港)有限公司	90.65	2011年9月6日
13.	849	無線通信系統	GTECH-China ITS(Holdings) Co. Ltd. JV	243.90	2011年10月19日
14.	850	乘客移動通信系統	京信通信有限公司	105.33	2012年12月12日
15.	851	固定通信系統	Siemens Ltd.	273.14	2011年10月19日
16.	852	票務系統	同方威視技術股份有限公司	165.66	2012年4月16日
17.	853	主控系統	北京和利時系統工程有限公司	65.60	2011年11月8日
18.	855	隧道通風設施及緊急救援處樓宇設備	安樂工程有限公司	297.40	2011年1月12日
19.	856	石崗列車停放處樓宇設備	安樂工程有限公司	140.41	2011年2月1日
20.	861A	軌道機車及軌道平車	江蘇今創車輛有限公司	78.29	2012年3月13日



2010年4月16日  
資料文件

立法會交通事務委員會  
鐵路事宜小組委員會

政府就廣深港高速鐵路香港段建造工程  
進行的監察和匯報工作

## 引言

本文件旨在向委員簡介，政府監察廣深港高速鐵路(高鐵)香港段建造工程的機制，以及定期向立法會匯報高鐵項目進展的建議。

## 背景

2. 高鐵香港段是一條連接香港、深圳、東莞和廣州的高速鐵路，並會成為國家高速鐵路網絡的一部分。立法會財務委員會於2010年1月16日批准撥款進行高鐵香港段鐵路和非鐵路的建造工程後，政府於2010年1月26日與香港鐵路有限公司(港鐵公司)簽訂委託協議，以委託該公司進行高鐵項目的建造和試行運作。建造工程其後於2010年1月底展開，以期在2015年完成。

## 為高鐵項目的實施工作而設的監察制度

3. 根據委託協議，港鐵公司負責全面管理高鐵項目。在管理高鐵項目時，該公司須遵從其管理系統和程序，並有責任按政府的要求，提供任何與高鐵項目相關

的資料。政府會全力監督港鐵公司的工作，以確保項目的實施工作符合核准工程預算、質素優良，並能如期完成。

### 項目監管委員會

4. 路政署署長是高鐵項目的管制人員，並負責領導高層次的跨部門項目監管委員會。委員會每月與港鐵公司及相關政府部門舉行會議，以檢討項目的進度；監察有關的採購活動、招標後的成本控制和有關合約申索的調解。該委員會亦會就任何影響高鐵項目進展的事宜，提供指引。

5. 為支持和配合項目監管委員會的工作，路政署在港鐵公司相關的工作程序中引入多個監察點，以及早提出值得關注的事項，從而作出適當處理。

### 於港鐵公司工作程序中設立的監察點

#### *(a) 招標程序*

6. 港鐵公司在甄選顧問、承建商及供應商為高鐵項目提供服務時，會按照以下四個流程進行：提交投標意向書、預審資格以便甄選投標者、招標及標書評審。一般而言，港鐵公司的招標小組會按照該四個流程進行工作，然後就批出標書作建議。視乎投標金額，招標小組會將建議提交部門總監、標書評審團或港鐵公司董事局批准。

7. 港鐵公司的採購和招標程序，符合世界貿易組織的《政府採購協定》的相關規定。高鐵香港段項目的合約，包括已招標的合約，亦採用相同的招標程序。

8. 當涉及高鐵項目的工程及服務的招標，路政署會派代表(通常為首長級人員)出席招標小組的招標籌備簡介會，以及招標小組及標書執行委員會的所有會議。涉及須由港鐵公司董事局作出的重大招標決定時，港鐵執行委員會會先行討論以向董事局提供建議，路政署署長會出席執行委員會相關的會議參與討論。

#### *(b) 項目管理*

9. 港鐵公司每月舉行項目匯報會議，以監察高鐵項目的進展。路政署的代表會出席這些會議。港鐵公司亦須向路政署提交相關的資料。對於可能影響工程成本、質素或進展的事宜，如路政署及／或其他政府部門提出要求，港鐵公司亦會安排簡介會。

#### *(c) 成本及預算控制*

10. 港鐵公司已設立鼓勵節省成本的機制。於招標過程中，招標者可另行呈交效益更佳及／或成本較低的建議方案。於建造工程進行期間，港鐵公司、其承建商、供應商及相關政府部門會進行價值工程檢討會議，以識別及評估既可節省成本而又能達致相同甚至更佳效益的機會。這些機制有助減低高鐵香港段項目的整體成本，路政署的代表亦會參與。

11. 港鐵公司舉行成本控制會議，以檢討相關顧問研究、建造工程合約及高鐵項目整體上的財務狀況。路政署的代表會出席這些會議。港鐵公司亦已成立工程監管組，審核有關高鐵項目的合約的修訂和申索的評估。路政署的首長級人員會出席這些會議，以提供意見和反映政府的意見。

### 外界監察和核證

12. 鑑於高鐵項目的規模，路政署會委聘外界顧問，以協助進行監察工作，及定期審核港鐵公司有否履行與政府簽訂的委託協議訂明的責任。監察和核證工作的對象，並不限於港鐵公司的工作，還包括該公司為高鐵項目而聘用的顧問、承建商或代理人所進行的工作。此外，顧問會識別和告知路政署，與實施高鐵項目相關的潛在風險，並且提出適當的緩解措施。此舉有助確保高鐵項目符合規定的標準，並能如期完成，不會超出預算。

### 匯報高鐵項目的進展和財務狀況

13. 政府於 2010 年 1 月要求立法會財務委員會批准高鐵項目的鐵路和非鐵路建造工程的撥款申請時，曾承諾會定期向立法會交通事務委員會轄下的鐵路事宜小組委員會(小組委員會)，匯報高鐵香港段建造工程的進展。

14. 我們注意到，政府曾定期向立法局匯報機場核心計劃項目的進度，以便立法局監察大型工程項目。議員大致上覺得這是有效的監察安排。我們建議以機場核心計劃項目的匯報框架為藍本，以向小組委員會匯報高鐵項目的進展。機場核心計劃 1997 年 7 月至 9 月期間的報



告(只有英文版本)，現載於附件，以供參考。與該份報告相似，我們建議高鐵的報告應包括高鐵項目建造工程的進展和財務狀況。高鐵報告擬涵蓋的主要項目，載述於下文。

15. 機場核心計劃涉及多種工程，包括機場、公路、鐵路、隧道、填海和新市鎮發展；工程由多個機構負責實施，並且通過不同方式融資。機場核心計劃的報告載述各項主要工程進展的最新資料，包括最新的開支預算、融資和財務狀況，以及有關申索的情況。高鐵項目是工務計劃下的單一鐵路項目，主要包括隧道和總站的建造、附屬鐵路設施和道路工程。為提高透明度以及向小組委員會提供更深入的最新資料，我們建議把高鐵項目分為以下三大組成部分，包括：

- (a) 鐵路隧道，包括附屬鐵路設施；
- (b) 西九龍總站，包括附近地區的道路工程和行人通道；以及
- (c) 整個系統的機電工程，包括列車。

16. 為了讓委員監察高鐵項目的進展，以確保高鐵項目可如期完成，我們會匯報於匯報期內完成的工程及各主要組成部分批出的主要合約<sup>1</sup>，並會預告計劃在下一個匯報期內進行的工程，以及擬批出的主要合約一覽表。報告亦會匯報主要工程預備工作的進度(如土地清拆、為鐵路走線沿途的建築物進行樓宇現況勘察及重要的臨時交通安排等)以及主要須要協調的事宜(如工程對受影響

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<sup>1</sup> 我們會向小組委員會匯報合約款額超逾 5,000 萬港元的主要合約。其他合約則會作集體匯報。

地區交通的影響，與相關項目間的協調等)。在高鐵的財務狀況方面，我們則會匯報，於匯報期內各主要組成部分的開支狀況和有關合約的申索。

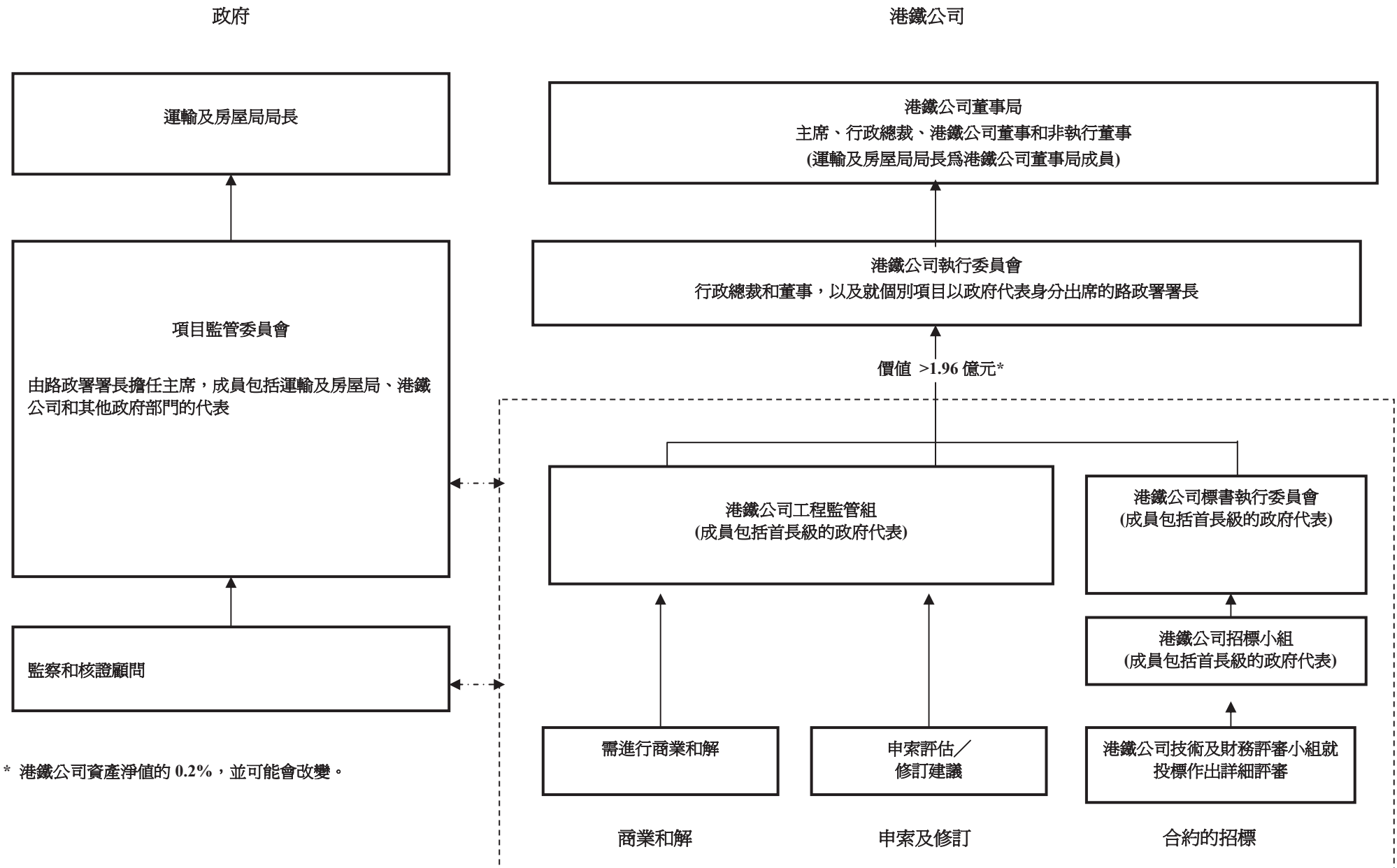
17. 鑑於高鐵項目是政府全資撥款興建，加上項目涉及範疇較機場核心計劃為小，因此我們預期項目管理工作的複雜性較低。我們認為適宜每隔六個月向小組委員會匯報高鐵項目建造工程的最新進展。

18. 視乎委員的意見，我們建議首份報告應包括 2010 年 1 月 16 日(即財務委員會通過高鐵項目撥款當日)至 6 月 30 日期間的進展。至於其後每六個月的報告，則會涵蓋未來數年截至 12 月 31 日和 6 月 30 日為止期間的進展，直至高鐵投入服務。

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運輸及房屋局  
2010 年 4 月

### 政府為高鐵項目香港段建造工程而設的 監察機制流程圖



\* 港鐵公司資產淨值的 0.2%，並可能會改變。

**廣深港高速鐵路(高鐵)  
香港段建造工程**

**事件時序表**

日期	事件
2008年11月24日	政府與香港鐵路有限公司(港鐵公司)就高鐵的設計及工地勘測工作簽訂委託協議。
2009年12月2至3日	立法會工務小組委員會批准高鐵香港段撥款申請(立法會文件編號 PWSC(2009-10)68 及 PWSC(2009-10)69)。
2010年1月16日	立法會財務委員會批准建造高鐵香港段撥款申請(立法會文件編號 FCR(2009-10)44)。
2010年1月26日	政府就高鐵項目的建造及試行運作，與港鐵公司簽訂委託協議。
2010年3月26日	項目監管委員會(監委會)舉行第一次會議，通過監委會的職權範圍及成員名單。 會議討論了港鐵需要包含於進度報告內的資料，包括工程計劃、財務狀況以及人手情況。
2010年4月16日	立法會交通事務委員會鐵路事宜小組委員會(小組委員會)討論政府對高鐵香港段工程的監察及匯報工作。
2010年4月28日	監委會舉行第2次會議。 會議察悉- - 隧道及機電工程的詳細設計如期進行； - 西九龍總站的樁柱及地下連續牆工程進展順利；及 - 土木工程設計及招標文件的製備工作略有滯後。 主席提醒港鐵公司，如在提交過程中出現任何問題，應盡早向路政署提出。
2010年5月28日	監委會舉行第3次會議。 港鐵公司匯報，整體實質進度為 0.4%完工，已用 4.5%時間。 港鐵公司匯報，根據當時的進度，跨境隧道內地段很有可能滯後 6 個月。路政署建議與內地相關單位討論此事。 港鐵公司表示，西九龍總站的詳細設計正在全速進行，只有輕微滯後。此外，南昌站上蓋物業地基的移除和重置工程和西九龍總站地基工程亦有輕微滯後。經修訂的西九龍總站總綱發展圖獲得通過。
2010年6月	與內地相關單位就高鐵深港段會面，察悉跨境段隧道有些

日期	事件
10 日	滯後，應進行緩解措施。深圳方正準備解決方法以確保此段於 2015 年中通車。
2010 年 6 月 25 日	<p>監委會舉行第 4 次會議。</p> <p>港鐵公司匯報，整體實質進度為 0.9%完工，與計劃的 1.2% 相比，相當於滯後約 2 個星期。</p> <p>港鐵公司表示，西九龍總站的地基及連續牆工程連續牆工程進展順利，但有一項合約落後 6 星期。就主席詢問道路及公用設施工程滯後 6 個星期對整體計劃有否不良影響，港鐵公司表示，承建商已採取所需措施加快工程進度。西九龍總站的詳細設計工作(現正追回進度)及南昌站上蓋物業地基的移除及重置工程也有輕微滯後。</p> <p>港鐵公司亦提及，內地相關單位負責跨境段的承建商提出有 3 個月的滯後，正與內地相關單位商討緩解措施。</p>
2010 年 6 月 29 日	<p>政府向小組委員會提交首份半年度報告(立法會文件編號 CB(1)2290/09-10(01))，匯報截至 2010 年 6 月 30 日高鐵香港段工程的進展及財務狀況。11 份主要工程合約已經批出。隧道工程的進展整體上令人滿意，至今並未出現重大困難。西九龍總站地基工程如期進行，正在最後敲定總站大樓的詳細設計。各主要機電系統的設計正在進行。報告也述及臨時交通安排、大角咀樓宇狀況勘察工作、菜園村的收地工作及就業機會的情況。因應委員要求，政府當局在報告附上政府的監察機制流程圖。</p>
2010 年 7 月 6 日	<p>小組委員會討論高鐵香港段工程進度報告。會議討論了菜園村收地及大角咀居民關注事宜。政府當局匯報，其目標是在 2010 年 10 月完成清拆菜園村及村民遷離該處。港鐵公司匯報就大角咀居民關注事項方面的工作。</p>
2010 年 7 月 9 日	<p>路政署鐵路拓展處、港鐵公司與內地相關單位舉行會議，討論的事項包括跨境隧道深圳段的時間表。</p>
2010 年 7 月 30 日	<p>監委會舉行第 5 次會議。</p> <p>根據港鐵公司匯報，整體實質進度為 1.3%完工，與計劃的 1.7%相比，相當於滯後約 3 個星期。土木工程의 招標設計如期進行。雖然詳細的建築設計滯後，但情況正在改善。至於西九龍總站方面，地基及連續牆工程的進度正在改善。污水道及地下水管改道工作須加快進行，以趕及已定的連翔道改道安排。追回進度措施將會進行。</p> <p>除了南昌隧道的阻塞清理工程滯後約 2 個月外，隧道工程大致如期進行。港鐵公司表示將會採取追回進度措施，暫</p>

日期	事件
	<p>時不會對項目的整體完工日期造成影響。</p> <p>跨境段建造工程滯後 3 個月，將會影響皇崗至米埔隧道及米埔至牛潭尾隧道的工程、軌道及機電裝置。</p> <p>港鐵公司匯報，合約 802 的南昌站上蓋物業地基移除及重置工程和西九龍總站地基工程約有為期 2 個月的滯後。不過，有關工程尚未到達關鍵階段，暫時對項目的整體完成情況沒有不良影響。</p>
2010 年 9 月 8 日	<p>監委會舉行第 6 次會議。</p> <p>港鐵公司匯報，整體實質進度為 1.8%完工，與計劃的 2.4%相比，相當於滯後約 3.5 個星期。港鐵公司表示，仍可控制整體實質進度。港鐵公司正在密切監察西九龍總站的建築設計及解決未完成的設計事項。雖然滯後 1 個月，但西九龍總站的地基及連續牆工程亦正進行中。公用設施改道的問題已獲解決。港鐵公司正在採取措施，追回在移除及重置南昌站物業地基方面的 2 個月滯後時間。</p> <p>港鐵公司匯報，跨境段內地部份的進度再約有 5 個星期滯後。</p>
2010 年 10 月 6 日	<p>監委會舉行第 7 次會議。</p> <p>港鐵公司匯報，整體實質進度為 2.6%完工，與計劃的 3.1%相比，相當於滯後約 3 個星期。西九龍總站土木／結構及機電設計工作如期進行，現正監察建築設計的進度和質素。儘管滯後 1 個月，西九龍總站的地基及連續牆工程達至理想的進度。港鐵公司就更更改交通改道時間的安排作出匯報，預期延時間為 2 星期至 2 個月。港鐵公司補充，項目的主要工序暫不受影響。</p> <p>港鐵公司匯報，南昌站上蓋物業地基的移除及重置工程出現 3 個月滯後。</p>
2010 年 10 月 29 日	<p>監委會舉行第 8 次會議。</p> <p>港鐵公司匯報，整體實質進度為 3.2%完工，與計劃的 3.8%相比，相當於滯後約 3 個半星期。西九龍總站的地基及連續牆工程正在進行，污水渠改道因為地下阻塞而進展緩慢。關於南昌站上蓋物業地基移除及重置工程，港鐵公司承諾訂立追回進度計劃，並預計對隧道工程不受影響。港鐵公司會密切監察已滯後 3 個半月的工程進度。</p>
2010 年 11 月 26 日	<p>監委會舉行第九次會議。</p> <p>港鐵公司匯報，整體實質進度為 3.7%完工，而計劃進度為 4.5%。</p>

日期	事件
	港鐵公司表示，連續牆欠妥令人關注，正採取行動解決問題。港鐵公司表示，在擬備一份合約的招標圖則方面滯後了 1 個月；移除及重置南昌站上蓋物業地基滯後了 5 個月，而西九龍總站地基工程則滯後了 1 個月。港鐵公司會密切監察工程的進度。路政署要求港鐵公司制訂措施追回滯後。
2011 年 1 月 28 日	<p>監委會舉行第 10 次會議。</p> <p>港鐵公司匯報，整體實質進度為 5.0%完工，與計劃的 5.9% 相比，相當於滯後 1 個月。</p> <p>港鐵公司表示，現正糾正欠妥的連續牆，整體工程計劃不受影響。港鐵公司表示，一份合約的土木工程設計滯後 1 個月止；移除及重置南昌物業地基滯後 6 個月；而西九龍總站地基工程則滯後 2 個月。港鐵公司會密切監察工程的進度，並制訂措施追回移除及重置南昌物業地基滯後的時間。</p>
2011 年 3 月 4 日	<p>監委會舉行第 11 次會議。</p> <p>港鐵公司匯報，整體實質進度為 5.7%完工，與計劃的 6.7% 相比，相當於滯後約 1 個月。</p> <p>港鐵公司表示，一份合約的土木工程設計滯後 1 個月；移除及重置南昌物業地基滯後 6 個月；而西九龍總站地基工程則滯後 2 個月。港鐵公司匯報，就南昌站上蓋的移除樁柱工作進度緩慢，並承諾其後檢討工程計劃。至於西九龍總站連續牆根基鬆軟的問題，港鐵公司表示正在進行補救工程，情況受控。</p>
2011 年 3 月 14 至 15 日	當局向小組委員會提交第二份半年度報告(立法會文件編號 CB(1)1585/10-11(07))，匯報截至 2010 年 12 月 31 日高鐵香港段工程的進展和財務狀況。16 份建造合約已經批出。隧道開挖前的預備工作進展大致順利。隧道鑽挖機進口豎井建造工程進展良好。西九龍總站車站樁柱及連續牆的地基工程已完成 70%，符合預期進度。機電工程系統設計工作進展良好。
2011 年 3 月 25 日	<p>監委會舉行第 12 次會議。</p> <p>港鐵公司匯報，整體實質進度為 6.1%完工，與計劃的 7.2% 相比，相當於滯後 1 個半月。</p> <p>港鐵公司表示，西九龍總站地基工程則滯後 3 個月；移除及重置南昌站上蓋物業地基滯後 8 個月；以及貫通隧道鑽挖機豎井方面滯後 3 個月。現正制訂追回進度措施。</p>
2011 年 4 月	監委會舉行第 13 次會議。

日期	事件
29 日	<p>港鐵公司匯報，整體實質進度為 7%，與計劃的 8.1%相比，相當於滯後 5 個星期。港鐵公司表示，整體的滯後情況仍受控制。</p> <p>港鐵公司強調，移除及重置南昌物業地出現 39 個星期的滯後。路政署要求港鐵公司制訂措施追回滯後。</p> <p>港鐵公司表示，其他合約的滯後情況相較輕微，可在未來數月內追回。港鐵公司補充，正就西九龍總站的連續牆進行額外工程。</p>
2011 年 5 月 20 日	<p>立法會鐵路事宜小組委員會討論高鐵香港段建造工程的進展和財務狀況。委員詢問，法院最近就港珠澳大橋本地工程的環境影響評估報告(環評報告)作出的裁決，對推行高鐵項目所帶來的影響。政府當局表示，高鐵項目已進入施工階段，現正按經核准的環評報告及已發出的環境許可證所訂要求，如期進行有關工程。委員詢問，當局有何措施紓緩西九龍總站建造工程對交通及運輸帶來的影響。政府當局表示，當局現正分 5 個階段在西九龍區實施臨時交通管理計劃(管理計劃)；第一及第二階段的管理計劃已順利實施。至今並無發現對西九龍區的交通造成不良影響。政府當局會繼續就餘下階段的管理計劃諮詢有關區議會，也會密切監察交通情況。</p>
2011 年 5 月 27 日	<p>路政署與內地相關單位舉行了會議，會上注意到高鐵香港段工程正推展中，而跨境段隧道亦需加強工作以追回滯後的進度。</p>
2011 年 6 月 3 日	<p>監委會舉行第 14 次會議。</p> <p>港鐵公司匯報，整體實質進度為 7.6%完工，與計劃的 9.1%相比，相當於滯後 6 個星期。</p> <p>港鐵公司表示，南昌的樁柱移除工程進度仍然緩慢，低於目標日期。有關方面會密切監察，以決定是否指示轉用隧道鑽挖機。按原訂計劃，移除及重置南昌站上蓋物業地基滯後 44 個星期，按經修訂計劃的滯後時間為 10 個星期。其他合約的滯後相較輕微，可在未來數月內追回。</p>
2011 年 7 月 6 日	<p>監委會舉行第 15 次會議。</p> <p>港鐵公司匯報，整體實質進度為 9.0%完工，與計劃的 10.1%相比，相當於滯後 5 個星期。</p> <p>港鐵公司表示，南昌的樁柱移除工程進度仍然十分緩慢，而其他合約的滯後相對較為輕微。港鐵公司被要求採取行動，加快工作。</p>



日期	事件
2011年7月29日	<p>監委會舉行第十六次會議。</p> <p>港鐵公司匯報，整體實質進度為 9.6%完工，與計劃的 11%相比，相當於滯後 5.3 個星期。</p> <p>港鐵公司表示，南昌的樁柱移除工程略見改善，但仍落後於目標日期。</p> <p>港鐵公司匯報，中電大樓工地及行人天橋下的樁柱移除工程進展緩慢，以及連翔道工程出現滯後。現正制訂追回進度措施。</p> <p>港鐵公司表示，內地承建商指出，隧道鑽挖機滯後了 7 個月到達邊界。</p>
2011年8月30日	<p>路政署鐵路拓展處致函港鐵公司，表達對截至 2011 年 7 月底的高鐵每月進度報告的意見。就合約 802，路政署鐵路拓展處對使用旋鑽樁機及楔子方法移除下軌道的 H 型樁柱抱有疑問。</p>
2011年9月23日	<p>監委會舉行第 17 次會議。</p> <p>港鐵公司匯報，整體實質進度為 11.3%，與計劃的 13.6%相比，相當於滯後 8.4 個星期。</p> <p>港鐵公司表示，關於南昌的樁柱移除工程，不會採用圍堰方案，而是採取其他追回進度措施。中電大樓及行人天橋下的樁柱移除工程滯後已追回。</p> <p>港鐵公司預計，因佐敦道以北高岩層造成的滯後，最終可能達 7 個月。在實施臨時交通改道措施後，可縮減滯後時間至 2 個月。</p> <p>港鐵公司表示，如內地承建商繼續以現時的鑽挖隧道方法，將會導致滯後達 10 個月。港鐵公司同意與內地承建商解決問題。路政署署長促請港鐵公司密切監察進展情況。</p>
2011年9月27日	<p>當局提交第三份半年度報告(立法會文件編號 CB(1)3049/10-11(01))，匯報截至 2011 年 6 月 30 日的高鐵香港段建造工程進展和財務狀況。21 份主要合約已經批出。在鐵路隧道方面，隧道鑽挖機進口豎井的挖掘工作如期進行。首台隧道鑽挖機於 2011 年 6 月運抵米埔工地進行組裝。西九龍總站車站連續牆已大致完成，樁柱的地基工程亦已完成超過 90%。機電工程的招標工作進展順利。報告也述及臨時交通安排、大角咀的狀況勘測及社區聯絡、公眾參與和社區參與活動及就業機會等工作。</p>
2011年10月28日	<p>監委會舉行第 18 次會議。</p> <p>港鐵公司匯報，整體實質進度為 11.9%，計劃的進度為</p>

日期	事件
	<p>14.9%。</p> <p>港鐵公司建議採購第二台隧道鑽挖機，以便進行大江埔至謝屋村段工程，追回整體進度。路政署表示，港鐵公司應確保使用第二台隧道鑽挖機可追回所有損失的時間。</p> <p>港鐵公司與運輸署商討擬議的佐敦道臨時改道安排，以追回最少 5 個月的進度。</p> <p>港鐵公司會在鑽挖機出發後，評估隧道鑽挖機從深圳方面抵達邊界的滯後程度，並向路政署報告。</p>
<p>2011 年 11 月 24 日</p>	<p>監委會舉行第十九次會議。</p> <p>港鐵公司匯報，整體實質進度為 12.4%，計劃的進度為 16.2%。</p> <p>港鐵公司匯報，中電大樓及行人天橋下的樁柱移除工程進展良好。</p> <p>港鐵公司表示，須就西九龍總站引路隧道採取進一步追回進度措施。</p> <p>關於為緊急救援處建造連續牆，港鐵公司已採取措施，追回因高岩層造成的滯後，但仍不足以追回因較遲接管工地落後的進度。港鐵公司匯報，制訂追回進度措施的工作進展緩慢。</p>
<p>2012 年 1 月 20 日</p>	<p>監委會舉行第 20 次會議。</p> <p>港鐵公司匯報，整體實質進度為 14.1%，計劃的進度為 19%。</p> <p>港鐵公司表示，南昌的樁柱移除工程出現引伸自舊海堤的事宜。路政署署長表示關注。</p> <p>港鐵公司匯報，皇崗的鑽挖及爆破工程仍然停頓。隧道鑽挖機從皇崗至邊界可能因而滯後 2 個月，最終會影響香港段的工程。</p> <p>港鐵公司表示，已致函內地相關單位表示關注內地段的隧道建造時間表。有關工程已滯後 4 個月。路政署署長要求港鐵公司繼續密切監察情況，以及考慮稍後向內地相關單位反映。</p>
<p>2012 年 2 月 21 日</p>	<p>路政署署長與內地相關單位舉行會議，察悉隧道鑽挖機將於 2013 年中抵達深港邊界，滯後約六個月。</p>
<p>2012 年 2 月 24 日</p>	<p>監委會舉行第 21 次會議。</p> <p>港鐵公司匯報，整體實質進度為 15.7%，計劃的進度為 20.8%。</p> <p>港鐵公司匯報，整體工程進度滯後約 2 至 3 個月，將會採</p>

日期	事件
	<p>取追回進度措施。路政署署長表示，承建商須負責準時完成工程，如決定實施涉及費用的追回進度措施，應審慎行事。</p> <p>港鐵公司表示，南昌的樁柱移除工程未能達到所需進度，以配合隧道工程的時間表。如不能盡快取得 24 小時建築噪音許可證，隧道工程會受進一步影響。</p> <p>港鐵公司表示，內地承建商已重訂隧道內層完工及隧道鑽挖機出發日期至 2012 年 3 月 31 日及 3 月 10 日，進度可能進一步滯後。</p> <p>就路政署署長的詢問，港鐵公司表示，除跨境段外，所有追回進度措施的費用均包括於應急費用內。</p>
2012 年 3 月 7 日	<p>與內地相關單位舉行會議，以檢討跨境隧道工程的進度。會上表達了對內地段跨境隧道工程進度緩慢的關注。</p>
2012 年 3 月 30 日	<p>監委會舉行第 22 次會議。</p> <p>港鐵公司匯報，整體實質進度為 16.8%，計劃的進度為 22.7%。</p> <p>港鐵公司指出，南昌的樁柱移除工程仍然滯後，該公司會與承建商制訂追回進度計劃。</p> <p>港鐵公司表示，內地段第一台隧道鑽挖機很可能無可避免要推遲最少四個月才可啟動。港鐵公司關注第二台隧道鑽挖機的啟動可能亦需推遲，以及樓宇保護工程的完工也可能推遲，該公司已向內地承建商表達關注。</p> <p>港鐵公司表示，在隨後兩個月須與承建商協定追回進度措施，以便按照切實可行的工程計劃監察工程進度，確保整個項目如期竣工。</p>
2012 年 4 月 27 日	<p>監委會舉行第 23 次會議。</p> <p>港鐵公司匯報，整體實質進度為 17.9%，計劃的進度為 23.2%。</p> <p>港鐵公司表示，西九龍總站、西九龍總站連接隧道和謝屋村至石蔭隧道的承建商將於 6 月或以前提交追回進度計劃，確保整個項目可以如期竣工。</p> <p>港鐵公司指出，大角咀額外灌漿工程如有滯後，將直接影響隧道鑽挖工程計劃。</p> <p>港鐵公司表示，按照內地承建商的工程計劃，跨境段工程會滯後四個月。</p>
2012 年 4 月 27 日	<p>政府向小組委員會提交第四份半年度報告(立法會文件編號 CB(1)1710/11-12(01))，匯報截至 2011 年 12 月 31 日高</p>

日期	事件
	<p>鐵香港段工程的進展和財務狀況。32份主要建造合約已經批出。鐵路隧道方面，各段隧道的鑽挖機進口豎井的挖掘工作如期進行。首台隧道鑽挖機於2011年9月於米埔工地展開鑽挖工程。西九龍總站的車站連續牆及樁柱已完工，並展開了車站主體的挖掘工序，以建造地下車站。機電工程合約的招標工作進展順利。報告也述及臨時交通安排、大角咀的狀況勘測及社區聯絡、公眾參與和社區參與活動及就業機會等工作。</p>
2012年5月7日	<p>路政署與內地相關單位舉行會議，以檢討跨境隧道工程的進度。</p>
2012年5月25日	<p>監委會舉行第24次會議。</p> <p>港鐵公司匯報，整體實質進度為18.8%，計劃的進度為24.1%。</p> <p>港鐵公司表示，西九龍總站、西九龍總站連接隧道和謝屋村至石蔭隧道的承建商將於6月或以前提交追回進度計劃，以確保整個項目可以如期竣工。</p> <p>港鐵公司指出，大角咀額外灌漿工程進度理想。至於謝屋村至石蔭隧道工程，港鐵公司表示滯後達八個月，緩解措施只能抵銷兩至三個月。</p> <p>港鐵公司報告，跨境段工程仍然滯後四個月。</p>
2012年6月29日	<p>監委會舉行第25次會議。</p> <p>港鐵公司匯報，整體實質進度為20.5%，計劃的進度為26.7%。</p> <p>港鐵公司表示，西九龍總站、西九龍總站連接隧道和謝屋村至石蔭隧道的承建商已提交追回進度計劃，以確保整個項目可以如期竣工。</p> <p>港鐵公司強調，謝屋村至石蔭隧道工程在各方面均進展緩慢。港鐵公司亦指出，美荔道至海庭道隧道工程在貫穿南昌時可能遇上不曾測知的障礙物。</p> <p>港鐵公司表示，米埔至牛潭尾隧道工程進度緩慢，該公司已向承建商表達關注。</p>
2012年7月4日	<p>與內地相關當局舉行了會議。會上報告，第一台隧道鑽挖機應於2013年4月掘進至深港邊界；第二台隧道鑽挖機正在進行組裝，計劃2012年8月始發。</p>
2012年7月18日	<p>港鐵公司行政總裁致函運輸及房屋局局長(局長)，信中提及行政總裁已作內部檢討，評估未來需要面對的難題及處理方法。行政總裁指港鐵公司維持其目標，即一如計劃，</p>

日期	事件
	在 2015 年完成所有工程，以便高鐵如期啟用。行政總裁點出數項需要集中處理的難題，包括完成已滯後 6 個月連接深圳方面的隧道。
2012 年 7 月 26 日	運輸及房屋局(運房局)常任秘書長(運輸)就高鐵的計劃上的主要事宜覆函港鐵公司行政總裁，指出路政署一直定期出席聯絡會議，檢討技術事宜及深圳方面的高鐵進度。路政署鐵路拓展處已向內地相關單位表達關注。
2012 年 7 月 27 日	<p>監委會舉行第 26 次會議。</p> <p>港鐵公司港鐵公司匯報，整體實質進度為 22.4%，計劃的進度為 29.6%。</p> <p>就謝屋村和石蔭隧道工程的滯後，港鐵表示承建商提交了經修訂的計劃，而該計劃應可緩解對整體計劃的影響。</p> <p>就米埔至牛潭尾隧道工程，工程的前進速度開始加快。</p> <p>港鐵表示，現時內地段隧道工程滯後約 6 個月，並會對香港段的進度造成影響。</p> <p>港鐵報告，透過推展多項追回進展的措施，原訂 2015 年 8 月的項目完成日期可以達到。</p>
2012 年 8 月 13 日	路政署與內地相關單位舉行會議，表達對跨境隧道工程的關注，後者承諾會採取措施加快工程。
2012 年 8 月 21 日	與內地相關單位舉行會議。路政署在會上表示，縱然第一部隧道鑽挖機出現滯後，連接段隧道必須按時完工，以確高鐵可於 2015 年完工。
2012 年 8 月 31 日	<p>監委會舉行第 27 次會議。</p> <p>港鐵公司港鐵公司匯報，整體實質進度為 23.5%，計劃的進度為 31.4%。</p> <p>港鐵報告，南昌的工地工作受到承建商和子承建商之間持續的糾紛嚴重影響。港鐵已要求承建商盡早解決事宜以免使進度進一步滯後。</p> <p>就西九龍總站和連接隧道，港鐵表示，由於工地限制及地下公共管線改道，機電承建商進場往主要的機房被推遲。港鐵會進行緩解措施。</p> <p>港鐵表示內地段仍然需要關注，其隧道工程滯後 6 個月並可能會滯後更多。</p>
2012 年 9 月 28 日	<p>監委會舉行第 28 次會議。</p> <p>港鐵公司港鐵公司匯報，整體實質進度為 25.1%，計劃的進度為 34.5%。</p> <p>港鐵表示於南昌的工程的承建商和子承建商之間的糾紛仍</p>

日期	事件
	<p>未解決。承建商會盡力趕上進度。</p> <p>港鐵表示石蔭和八鄉的工程正在改善，而城門通風樓的豎井開挖仍然進度緩慢。</p> <p>港鐵表示米埔至牛潭尾隧道工程有進一步的滯後，而正在準備追回進度計劃。</p> <p>港鐵報告內地段仍然滯後 6 個月。</p>
2012 年 10 月 15 日	<p>政府向小組委員會提交第五份半年度報告，匯報高鐵香港段建造工程的進展和財務狀況(立法會文件編號 CB(1)24/12-13(02))。38 份主要合約，連同其他小型合約已經批出。鐵路隧道方面，首台隧道鑽挖機已於 2011 年 9 月在米埔工地啟動，另外兩台隧道鑽挖機亦已分別於 2012 年 2 月及 4 月展開鑽挖工程。西九龍總站的車站主體的挖土工程已完成 29%，車站南區正進行地底石屎結構工程。機電工程方面，主要合約之招標工作已大致完成，而承判商正進行系統詳細設計、物料及儀器之採購工作。報告也述及臨時交通安排、在大角咀區設置臨時監測點及社區聯絡、建造期間的查詢及投訴的處理，公眾參與和融入社區的活動及就業機會的工作。</p>
2012 年 10 月 19 日	<p>路政署鐵路拓展處致函內地相關單位，促請對方加強工作以達致 2015 年完成目標。</p>
2012 年 10 月 26 日	<p>監委會舉行第 29 次會議。</p> <p>港鐵公司港鐵公司匯報，整體實質進度為 26.6%，計劃的進度為 37.2%。</p> <p>為追回西九龍總站滯後的進度，港鐵公司覓得各項措施去改善接續機電工程合約的進場時間。</p> <p>港鐵表示城門通風樓的豎井開挖仍然緩慢。港鐵已要求承建商加快進度。</p> <p>就米埔至牛潭尾隧道工程，港鐵公司表示承建商已進行措施緩解滯後的影響。</p> <p>署長提醒港鐵公司應謹慎運用工程的應急費用。</p>
2012 年 11 月 23 日	<p>路政署與內地有關單位舉行了會議，察悉有需要加快工程進度。會議同意加強對相關工程的監察工作。港鐵以及高鐵內地段擁有人將提交建造工程的定期進度報告。</p>
2012 年 11 月 30 日	<p>監委會舉行第 30 次會議。</p> <p>港鐵公司港鐵公司匯報，整體實質進度為 28.3%，計劃的進度為 40%。</p> <p>港鐵認為西九龍總站土木工程方面的明顯滯後，並正與機</p>

日期	事件
	<p>電及路軌工程團隊與準備追回進度的措施。</p> <p>港鐵表示八鄉的工程的進度依照了追回進度的計劃，而石蔭的工程仍然滯後。城門通風樓的豎井開挖繼續進行中。</p> <p>港鐵表示南昌的樁柱移除進度並不滿意。港鐵會密切監察承建商的移除樁柱的技術。</p> <p>港鐵重申現時內地段隧道工程的滯後會影響香港段的進度。港鐵回覆路政署表示，他們會對整體項目計劃進行整體審視並向會署長報告。</p>
2013年1月25日	<p>監委會舉行第31次會議。</p> <p>港鐵公司匯報，整體實質進度為31.4%，計劃的進度為46.1%。</p> <p>港鐵公司表示，西九龍總站有些滯後，但應能於2013年中以前追回。</p> <p>港鐵公司表示，內地段的隧道工程滯後一年。港鐵會與內地相關單位會面，尋求後者協助推動加快工程。港鐵公司正在探討措施壓縮編號826合約的工程並加快其他工作以抵銷滯後，從而讓工程於2015年完成。</p> <p>路政署署長詢問港鐵公司何時可交代整體項目的主要計劃，以及西九龍總站方面的追回進度措施。港鐵表示他們仍在處理此事，可於二月底或三月作簡報。</p>
2013年3月	<p>路政署收到港鐵公司和高鐵內地段擁有人提交了一份報告匯報跨境段隧道的進度。根據該份報告，該兩部正向深港邊界鑽挖的隧道鑽挖機正處於約10至11個月的延誤，而高鐵隧道的測試和試行運作或可於2015年7月開始。加快進度的措施正在探討中。</p>
2013年3月1日	<p>監委會舉行第32次會議。</p> <p>港鐵公司匯報，整體實質進度為32.7%，按原訂總綱計劃為49.1%。</p> <p>經路政署鐵路拓展處詢問，港鐵公司回應指經修訂的進度計劃只將隧道方面的修訂進度計劃包含在內，而該些屬西九龍總站的則未曾與承建商商定。</p> <p>港鐵表示西九龍總站承建商仍在計劃額外的緩解措施。</p> <p>港鐵公司補充，他們會就內地段的工程進度，與內地相關單位緊密聯繫。</p> <p>路政署再次詢問港鐵何時會交代整體項目的主要計劃，以及西九龍總站方面的追回進度措施。港鐵回度指他們備妥後便會進行簡報。[註：簡報其後於2013年5月8日作出。]</p>

日期	事件
2013年3月22日	<p>監委會舉行第33次會議。</p> <p>港鐵公司匯報，整體實質進度為34.3%，按原訂總綱計劃為51.9%。</p> <p>港鐵表示由於主要的隧道工程將於接續數月完成，預期進度將會大為改善。</p> <p>就海泓道H型樁柱的阻礙，港鐵表示他們會調整部分機電工程的工序、局部移交工地並為機電工程方面提供額外的土地出入口，以緩解4個月的滯後。其他合約亦有滯後，而港鐵公司正準備緩解措施。</p> <p>港鐵表示內地段隧道仍然緩慢。港鐵會協助提升生產力。港鐵表示，基於當時的計劃，大部分的工程都會於2015年8月完成以進行測試和試行運作。</p> <p>港鐵表示正在與西九龍總站的承建商準備進一步的追回進度措施，將於4月商定，並會向路政署簡報西九龍總站的修訂計劃。</p>
2013年4月26日	<p>監委會舉行第34次會議。</p> <p>港鐵公司匯報，整體實質進度為35.9%；按原訂總綱計劃為55%完工。</p> <p>港鐵公司匯報，西九龍總站的土木工程有所滯後，該公司正與承建商就有關工程敲定追回進度計劃。</p> <p>港鐵公司匯報，位於海泓道的工字樁柱阻礙工程，導致滯後。</p> <p>至於謝屋村至石蔭的隧道工程，港鐵公司表示會改善工地內不同工程的統籌管理和後勤安排，以趕上計劃進度。</p> <p>港鐵公司表示，估計高鐵內地段的隧道工程會進一步滯後，已向內地相關單位重申對此事的關注。</p> <p>港鐵公司表示，將於7月向路政署簡報經修訂的西九龍總站計劃。主席提醒，必須審慎研究如何在潛在逾期完工費用和趕工費用之間取得恰當平衡，並須有充分理據支持。</p>
2013年5月6日	<p>運房局接獲傳媒有關高鐵建造工程滯後、南昌站上蓋物業樁柱、按合約索償情況等事宜的查詢。局方根據路政署從港鐵公司得悉的資料回覆高鐵香港段工程可在2015年內完成。</p>
2013年5月7日	<p>傳媒刊載題為「西九總站設計出事 嚴重超支 高鐵延誤一年」的報道。路政署要求港鐵提供相關事實資料。</p>
2013年5月8日	<p>港鐵公司向鐵路拓展處簡報進展情況，指出西九龍總站工程和合約826均有滯後，路軌相關安裝計劃的工程滯及測</p>



日期	事件
	<p>試和試行運作階段。港鐵公司建議為路軌工程額外購置機器，作為緩解措施以趕上進度。</p>
<p>2013年5月23日</p>	<p>運房局、路政署及港鐵公司舉行會議，審視項目最新狀況。</p> <p>政府當局向小組委員會提交第六份半年度報告(立法會文件編號 CB(1)1108/12-13(01))，匯報截至 2012 年 12 月 31 日的高鐵香港段工程的進展和財務狀況。39 份主要建造合約和其他小型合約已經批出。報告匯報的整體進展概述如下：</p> <ul style="list-style-type: none"> <li>● 在鐵路隧道方面，共有六台隧道鑽挖機展開隧道鑽挖工程。與國內連接之隧道段，兩部始發於深圳河以北皇崗豎井的隧道鑽挖機已分別於 2012 年 6 月及 11 月向南展開皇崗至米埔段的隧道建造工程。至於新界隧道段，從米埔工地啟動的首台鑽挖機已於 2012 年 12 月順利在圍仔村地底通過。另外一台隧道鑽挖機亦已於 2012 年 10 月在七星崗工地啟動，往大江埔方向鑽挖。至於市區隧道段，從南昌工地鑽挖向北行的一台隧道鑽挖機已於 2012 年 12 月順利貫通葵涌段南行鑽爆隧道；向南行的隧道鑽挖機於 2012 年 9 月中至 11 月順利完成大角咀段的鑽挖，並往油麻地方向進發。鑽爆隧道的工程亦於葵涌、石蔭、城門、八鄉、大江埔及牛潭尾等工地全速進行。葵涌段南行隧道鑽爆工程已經完成，而北行隧道則繼續以鑽爆方式推進，預計於 2013 年第二季貫通石蔭段隧道。</li> <li>● 在西九龍總站方面，車站主體的挖掘工程已完成大約百分之四十五。其中車站最南端結構工程部分已到達地下 B3 層(共四層：B1 至 B4 層)；而主體車站部分已挖掘至車站最底層的 B4 層，即車站月台層。</li> <li>● 在機電工程方面，主要合約(包括動車組及訊號系統)已經批出。承判商隨即進行系統詳細設計、物料及設備的採購工作。</li> </ul> <p>報告也載述臨時交通安排、大角咀社區聯絡工作、與攸潭美村居民的溝通、查詢及投訴的處理、公眾參與及融入社區的活動和就業機會等方面的工作。</p> <p>政府當局也提交另一資料文件(立法會文件編號 CB(1)1072/12-13(03))，回應傳媒對高鐵香港段工程的關注。該文件匯報了高鐵香港段整體工程進度和時間表、高</p>

日期	事件
	鐵項目財政狀況、南昌站樁柱移除工程、對大角咀樓宇安全的關注等事宜。
2013年5月24日	<p>小組委員會討論高鐵香港段建造工程的進展和財務狀況。委員的主要意見和關注概述如下：</p> <ul style="list-style-type: none"> <li>● 高鐵的進展：對於傳媒報道高鐵項目的進展時指項目可能會延誤及超支，委員普遍對政府當局及港鐵公司能否如期完成項目深表關注。部分委員建議政府當局提供項目的時間表，列出項目進展的重要資料，並要求港鐵公司解釋南昌站樁柱移除工程的詳情。部分委員繼而詢問，若港鐵公司無法如期完成高鐵項目，罰則為何。政府當局回應時表示，當局的目標仍然是於2015年完成高鐵香港段的工程。港鐵公司有責任遵守委託協議。此外，政府當局成立了高層次的跨部門項目監管委員會，定期與港鐵公司舉行會議，在不同範疇監察項目的落實情況。政府當局一直與有關各方緊密合作，以確保高鐵工程能如期完成，並符合核准預算。然而，如港鐵公司未能如期完成項目，政府當局會根據合約條款處理有關事宜。如有需要，當局可提供進一步資料。</li> <li>● 高鐵的財政狀況：部分委員指出，在54億元的項目應急費用當中，已提出申索的金額達46億元。政府當局回應委員的提問時解釋，未能預計的地質情況是已具有理據的申索所提出的主要理由，而地基及地盤平整工程的進度亦受到地質情況的影響。儘管如此，當局已預留款項，應付建造過程中未能預見的情況。項目的應急費用由核准預算(即668億元)中撥出。政府當局繼而表示，所有金錢申索必須有理據支持，而最終協定的賠償金額往往與所申索的金額有出入。根據現時估算，項目的應急費用足夠應付有關的申索開支。港鐵公司回應時表示，承建商有權根據相關合約條款提出申索，而港鐵公司會審核每項申索，確保嚴格遵守合約條款及既定程序。</li> <li>● 高鐵的安全事宜：委員普遍對高鐵的安全事宜深表關注，特別是傳媒有關高鐵內地段安全事宜的報道，以及高鐵項目對大角咀附近設施及樓宇結構安全所造成的影響。港鐵公司回應時表示，該公司已不遺餘力確保高鐵項目的安全，包括西九龍總站及鐵路隧道附近</li> </ul>

日期	事件
	<p>的樓宇安全、鐵路營運安全，以及工地的職業安全。就樓宇安全而言，港鐵公司解釋，至今所有監測數據均屬預期水平之內，因此結論是，高鐵項目並沒有影響現有樓宇的安全。至於職業安全方面，港鐵公司表示，項目的意外率比政府當局的標準低 50%。</p> <p>部分委員指出，政府當局只提供截至 2012 年 12 月 31 日的數據，並促請政府當局盡快提供最新的資料，包括在 2012 年 12 月後提出的已具有理據的申索所持的申索理由，以及高鐵信號系統的整體情況。</p>
2013 年 5 月 30 日	<p>監委會舉行第 35 次會議。</p> <p>港鐵公司匯報，整體實質進度為 37.6%；按原訂總綱計劃為 58.2%。港鐵公司表示，西九龍總站工程和海泓道隧道工程進度緩慢，是拖慢項目進度的主因。</p> <p>主席指出，若有關滯後將導致項目未能在目標日期完工，必須及早通知路政署。港鐵公司承諾會這樣做，並表示會繼續密切監察情況。</p> <p>港鐵公司表示，持續保持警惕以確保為西九龍總站工程實施的追回進度措施繼續有效，至為重要。港鐵公司會密切監察情況，留意追回進度計劃能否完成。</p> <p>港鐵公司指出，正就海泓道工程的滯後制訂緩解措施。路政署要求港鐵公司在日後的監委會會議上，簡報高鐵項目整體情況，以及就各項合約的滯後所採取的趕工措施。</p>
2013 年 6 月 28 日	<p>監委會舉行第 36 次會議。</p> <p>港鐵公司匯報，整體實質進度為 39.7%；按原訂總綱計劃為 61.8%。</p> <p>港鐵公司表示，項目整體滯後約六至七個月，當中以西九龍總站和跨境段的工程至為關鍵。該公司將會考慮採取一系列短中期緩解措施以趕上項目進度。</p> <p>港鐵公司指出，仍在與承議商磋商西九龍總站工程的抵銷滯後措施，並正制訂新的總綱計劃，以期於 8 月完成後可向路政署作出簡報。</p>
2013 年 7 月	<p>路政署收到港鐵公司與高鐵內地段擁有人就跨境隧道段建造工程進度向政府提供的第二份季度報告。報告指出：</p> <ul style="list-style-type: none"> <li>● 向深港邊界線推進的兩台隧道鑽挖機，鑽挖至香港的目標日期分別為 2013 年 10 月和 11 月。經修訂的工程計劃已計及工程將較原訂計劃滯後十至十一個月；</li> <li>● 隧道鑽挖機的平均鑽挖速度較原訂目標為慢，有關方</li> </ul>

日期	事件
	<p>面將採取抵銷滯後措施，確保港方所有工程於 2015 年竣工的目標不受影響；</p> <ul style="list-style-type: none"> <li>● 高鐵的測試和試行運作可於 2015 年 7 月展開；以及</li> <li>● 港鐵公司會繼續與內地相關單位聯繫，探討有何措施避免工程進一步滯後。</li> </ul> <p>路政署鐵路拓展部關注兩台隧道鑽挖機的進度，將會繼續與港鐵公司和內地有關方面聯繫，以免工程進一步滯後。</p>
2013 年 7 月 5 日	<p>港鐵公司與高鐵內地段擁有人向運房局遞交就跨境隧道段建造工程進度編製的第二份季度報告(見上文)。路政署和港鐵公司就高鐵的整體進度及跨境段隧道向局長作出簡報。局長表示，路政署和港鐵公司繼續與內地伙伴聯繫以制訂措施紓緩滯後。</p>
2013 年 7 月 18 日	<p>監委會舉行第 37 次會議。</p> <p>港鐵公司匯報，整體實質進度為 41.4%；按原訂總綱計劃為 65.2%。</p> <p>港鐵公司指出，過去一個月的工作略有滯後，主要由於隧道工程進度緩慢。項目整體滯後約七個半月。西九龍總站工程和隧道工程的承建商正在採取多項措施以減少滯後。港鐵公司表示，已着力為西九龍總站工程實施追回進度措施。機電隊伍正在審視西九龍總站可交予機電人員施工的最新日期，並正研究替代的施工次序，以達到 2015 年完工的目標。港鐵公司會制訂策略，確保經修訂的總綱計劃妥善協調所有合約計劃。</p> <p>港鐵公司表示，將於 8 月為路政署安排簡報會，匯報整體總綱計劃和經修訂的西九龍總站工程計劃。</p>
2013 年 7 月 23 日	<p>經運房局要求，路政署鐵路拓展處和港鐵公司向運房局匯報高鐵香港段和跨境段的整體進度。按照預測，跨境隧道的土木工程將於 2015 年 3 月完工，跨境測試工作將於 2015 年 7 月展開，目標是高鐵在 2015 年 12 月正式投入營運服務。政府提醒港鐵公司須盡最大的努力確保項目按預算如期竣工。</p>
2013 年 8 月 20 日	<p>港鐵公司向鐵路拓展處簡報高鐵項目進度的整體情況，指出西九龍總站工程和跨境隧道段工程至為關鍵。港鐵公司建議，高鐵在 2015 年年底前局部啟用(六個長途列車月台投入服務)。西九龍總站餘下外部工程將於 2016 年年中完工並全面啟用。港鐵公司正在研究緩解措施。</p>
2013 年 8 月	<p>監委會舉行第 38 次會議。</p>

日期	事件
29 日	<p>港鐵公司匯報，整體實質進度為 43.2%；按原訂總綱計劃為 68.5%。</p> <p>主席關注實質進度與計劃進度之間存在大幅差距，特別是西九龍總站工程的進度。港鐵公司回應時表示，情況在 7 月份已有改善，整體進度可望於數個月內趕上計劃。港鐵公司補充，西九龍總站承辦商更換管理層後，相關各方均已掌握未來各階段工作的清晰目標，該公司會探討一切可行措施以改善情況，並解決任何潛在障礙。</p> <p>港鐵公司表示，項目整體滯後約八個月。西九龍總站工程和隧道工程的承建商正在研究各種措施以減少滯後。港鐵公司承諾於 9 月向主席和路政署簡報項目最新整體情況和財務狀況。</p> <p>至於西九龍總站工程滯後方面，港鐵公司表示正在研究電纜路線和重要機房位置的替代方案，以便把工程重訂優次和重新排序，令高鐵項目可如期於 2015 年完成。</p> <p>港鐵公司解釋，海泓道工字樁柱阻礙工程的問題已經解決。</p>
2013 年 9 月 13 日	<p>港鐵公司聯絡署長，探討高鐵項目可否局部啟用，即項目工程的主要部分將於 2015 年年底完成，而測試和試行運作則於各段隧道完工後展開，以期高鐵於 2015 年年底前局部啟用(足夠早期客運需求)。在局部啟用方案下，15 條路軌中須有六條路軌和基要鐵路設施完工，為乘客提供服務。由於港鐵公司未能提供足夠資料，確認局部啟用方案的可行性，路政署未有同意該方案，並要求港鐵公司交更多資料，以便向運房局提交報告。</p>
2013 年 9 月 19 日	<p>署長實地視察石崗列車停放處及緊急救援處工地，以及合約 823A 隧道工地。</p>
2013 年 9 月 27 日	<p>監委會舉行第 39 次會議。</p> <p>港鐵公司匯報，整體實質進度為 44.4%；按原訂總綱計劃為 71.5%。</p> <p>港鐵公司表示，工程在 8 月份有所滯後，主要由於西九龍總站的鋼筋連接扣件問題和大江埔至謝屋村的隧道工程進度緩慢。港鐵公司預期西九龍總站的鋼筋連接扣件問題將會逐步解決，而混凝土澆灌工程的效率在未來數月也會大大提高。</p> <p>港鐵公司匯報，項目整體滯後約八個半月，該公司正在研究額外措施以減少滯後。</p>
2013 年 10 月	<p>政府當局向小組委員會提交第七份半年度報告(立法會文</p>

日期	事件
17 日	<p>件編號 CB(1)81/13-14(01))，匯報截至 2013 年 6 月 30 日的高鐵香港段建造工程的進展和財務狀況。39 份主要建造合約和其他小型合約已經批出。報告匯報的整體進展概述如下：</p> <ul style="list-style-type: none"> <li>● 在鐵路隧道方面，一共有七台隧道鑽挖機展開隧道鑽挖工程，當中包括兩台從深圳河以北的皇崗豎井向米埔方向推進的鑽挖機，繼續進行內地與香港連接段隧道段的鑽挖工程。整個項目最後一台啟動的隧道鑽挖機於 2013 年 7 月初從北行線隧道的米埔工地啟動，往牛潭尾方向進行鑽挖。另一台從米埔南行線隧道出發的隧道鑽挖機，預計於 2013 年 7 月底完成至牛潭尾路段的鑽挖工程。此外，從七星崗工地啟動的隧道鑽挖機正繼續往北向大江埔方向前進。而從石崗工地啟動的鑽挖機已於 2013 年 3 月順利啟動，現正往南向謝屋村方向繼續鑽挖工程。至於市區隧道段，繼南昌至美荔道路段南行線隧道的鑽挖工程於 2012 年年底順利完成後，該隧道鑽挖機已於 2013 年 3 月完成重新組裝，並再次從南昌向北推進，展開同一路段之北行線隧道鑽挖工程。另一台隧道鑽挖機在順利完成大角咀段鑽挖後，正繼續往油麻地方向進發。鑽爆隧道的工程亦正在葵涌、石蔭、城門、八鄉、大江埔及牛潭尾等工地全速進行。從葵涌至石蔭路段的鑽爆工程已於 2013 年 3 月完成。整個挖掘工程包括鑽爆及鑽挖隧道已完成超過百分之五十五。</li> <li>● 七個分別位於米埔、牛潭尾、八鄉、城門、葵涌、南昌及旺角西的通風樓結構工程正在繼續進行。而葵涌及八鄉通風樓之結構工程已接近完成，預計 2013 年下半年將會平頂。</li> <li>● 在西九龍總站方面，車站主體的挖掘工程已完成超過百分之六十。其中車站最南端結構工程部分已到達最底層的地下 B4 層(共四層：B1 至 B4 層)；而首兩層(即 B1 至 B2 層)的混凝土結構亦已完成。車站月台層(即 B4 層)及 B3 層亦繼續向上進行混凝土結構工程。</li> <li>● 在機電工程方面，機電設備之安裝工程已於西九龍高鐵總站、石崗的緊急救援處及列車停放處同時展開；而高鐵列車及信號系統的設計亦已完成，正投入生產。部份列車軌道已運抵石崗工地，軌道安裝及架空</li> </ul>

日期	事件
	<p>供電設備的前期工作同時進行。</p> <p>報告也載述臨時交通安排、大角咀社區聯絡工作、與攸潭美村居民的溝通、查詢及投訴的處理、公眾參與及融入社區的活動和就業機會等方面的工作。</p>
2013年10月22日	<p>根據路政署的資料，運房局向局長匯報跨境隧道繼續有滯後。若果滯後不能追回，高鐵香港段隧道的測試要在2015年10月才能開始，高鐵香港段的開通日期會因此受影響。同時，港鐵公司最近建議一個「局部啟用」方案，即在2015年時15條路軌中有六條可使用，而在2016年年中的「首日開通」，會有十條路軌可使用。這個建議是考慮了在不同合約中正進行的追回進度措施，而評估出工程進度得出的。西九龍總站及跨境隧道是高鐵香港段完工的關鍵。若任何一項有進一步滯後，高鐵香港段的通車日期將受影響。港鐵公司正在研究緩解延誤措施，當中包括調配不同工序，分段進行機電裝備工作。考慮到最新的財政及索償狀況，當時的評估是項目不會超支。有見及這些最新發展，運房局要求港鐵公及路政署，就項目最新發展作出詳細匯報。</p>
2013年10月29日	<p>監委會舉行第40次會議。</p> <p>港鐵公司匯報，整體實質進度為46%；按原訂總綱計劃為74.3%。</p> <p>主席非常關注工程進度，要求港鐵公司就實際進度與計劃進度之間的25%差距提供詳情。港鐵公司表示在不同工程項目均遇到難題，當中以西九龍總站的問題最複雜，港鐵公司正盡力趕工，以求能如期啟用。</p> <p>主席進一步要求港鐵公司提供項目啟用計劃的資料，以便當局監察實際進度。主席指出，啟用計劃須闡明外部工程和公共地方的情況。</p> <p>港鐵公司匯報，項目整體一般滯後約九個月，而跨境隧道工程則滯後11個月，該公司正在研究額外措施以減少滯後。</p> <p>西九龍總站方面，港鐵公司表示鋼筋連接扣件問題已經解決，預期混凝土澆灌工程可在未來數月趕上進度。</p> <p>至於跨境段方面，港鐵公司指內地承建商預計工程會再滯後兩三個月，或會影響高鐵項目的整體進度。港鐵公司表示會與內地相關單位緊密聯繫，研究方法盡量減少滯後。</p>
2013年11月	港鐵公司與路政署向常任秘書長(運輸)匯報。港鐵公司簡

日期	事件
8 日	報了西九龍總站及 826 隧道工程。就西九龍總站，港鐵表示西九龍總站可於 2015 年 12 月或以前局部啟用。會上又指出，826 隧道工程只可在 2015 年 10 月完成，而高鐵的測試(一般需時三個月)。由於再需要另外三個月進行試行運作，2015 年底的啟用日期可能受影響。局方質疑，按 826 的進度，於 2015 年 12 月或以前局部通車在技術上根本不可行。有鑑於高鐵可能不能夠於 2015 年通車，局方隨後安排路政署向局方匯報。
2013 年 11 月 20 日	路政署向局長匯報高鐵香港段。基於工程進度的評估，運房局擬於 2013 年 11 月 22 日的小組委員會會議上公布高鐵可能只可於 2015 年後啟用。
2013 年 11 月 21 日	港鐵公司行政總裁致電局長，表示不同意向小組委員會匯報 2015 年目標完工日期有所延遲。他強調工程仍可能完成而高鐵可在 2015 年年底投入服務。
2013 年 11 月 21 日	在局長指示，運房局(由常秘秘書長(運輸)帶領)、路政署及港鐵公司(由行政總裁帶領) 於 2013 年 11 月 21 日傍晚舉行緊急會議。港鐵公司在會上強調，維持二零一五年完工這項目標至為重要，否則該公司無法向承建商施壓，要求他們為項目趕工。港鐵公司補充，高鐵香港段仍可在二零一五年內完工並投入服務。運房局指出，根據港鐵公司早前所作匯報，高鐵香港段項目的西九龍總站和跨境隧道工程均遇到難題，詢問港鐵公司為何仍認為高鐵可在 2015 年完工並啟用。港鐵公司表示正在努力尋求解決方法，以達到目標；至少可以單軌行車。運房局指出單軌雙向行車不符合政府的要求，因此不能接受。運房局重申，儘管局方理解港鐵公司須繼續以二零一五年完工這個目標來向承建商施壓要求趕工，惟政府需要的是與現實情況相符的評估，並須在未能達標時即時告知公眾。運房局表示，按照港鐵公司提供的資料，高鐵香港段須待二零一五年十月才可展開測試，質疑高鐵如何能在二零一五年啟用。局方亦指出，單軌行車不符合政府要求，因此不能接受。局方留意到，跨境隧道工程出現滯後，這將會阻延香港段的隧道工程，對港鐵公司造成困難。港鐵公司回應謂，一俟內地段的跨境段隧道完工並開始於港方進行，該公司便可評估影響情況。運房局提醒港鐵公司不要高估自己克服困難的能力。與會者經相當討論後同意，儘管在現階段仍應維持二零一五年完工的目標，在翌日舉行的小組委員會會議上



日期	事件
	必須坦誠說明高鐵香港段項目面對的難題。其間，港鐵公司須向政府提供清楚計劃，說明如何達到目標。
2013年11月22日	在二零一三年十一月二十二日舉行的小組委員會會議上，政府述明根據港鐵公司的最新評估，高鐵項目的主要工程應可在二零一五年內完成，而在工程完成後，進行測試和試行運作，一般需時六至九個月。高鐵香港段須待相關政府部門審批測試結果後才可開通，以確保鐵路服務安全可靠。
2013年11月28日	路政署與內地相關當局舉行會議，察悉第一部隧道鑽挖機會於2014年2月28日抵達邊界，而目前進度可能會影響2015年啟用。
2013年11月29日	<p>監委會舉行第41次會議。</p> <p>港鐵公司匯報，整體實質進度為48%完工；按原訂總綱計劃為77%。</p> <p>港鐵公司估計，隧道、路基<sup>1</sup>、機電工程和西九龍總站工程在未來數月的效率會有提升。港鐵公司表示已制訂計劃，訂明所有土木工程和機電工程的不同目標完工日期，以2015年6月為限，方便展開測試和試行運作。</p> <p>港鐵公司在回應路政署的查詢時確定，該等目標可以達到。主席提醒港鐵公司，必須確保高鐵項目能夠按照核准預算完成。</p> <p>港鐵公司匯報，項目整體滯後約九個半月，當中以西九龍總站、跨境隧道和大江埔至謝屋村隧道的工程至為關鍵。主席要求港鐵公司特別監察並改善大江埔至謝屋村隧道工程的進度。路政署要求港鐵公司加強計劃內容，為各項合約訂明重要階段目標，以如期在2015年完工。因應主席的進一步要求，港鐵公司同意就擬議的高鐵啟用安排提供更多詳情，包括西九龍總站的外部工程和公共地方情況。</p> <p>針對西九龍總站工程的滯後，港鐵公司正在研究緩解措施，以令工程進度達到最低營運要求。該公司也正研究措施，以減少隧道工程的滯後。</p>
2014年1月21日	路政署鐵路拓展處與港鐵公司舉行第120次協調會議，並舉行第45次合約檢討會議。港鐵公司在協調會議上仍然表示，高鐵項目的目標完工日期為2015年。港鐵公司又表示，已於2014年1月9日提交計劃，說明各項重要工作的里程碑，以達到在2015年完工的最終目標。

<sup>1</sup> 路基泛指鐵路的路軌、道岔、混凝土道床等。

日期	事件
2014年1月24日	<p>監委會舉行第42次會議。</p> <p>港鐵公司匯報，整體實質進度為51.3%；按原訂總綱計劃為82%。</p> <p>港鐵公司估計，隨着西九龍總站的混凝土澆灌工程和機電工程加緊進行，以及可在更多位置進行鋪設路軌工程，整體工程效率在未來數月會有所提升。</p> <p>主席繼續關注工程計劃顯著滯後的情況，詢問港鐵公司有多大信心工程進度可在2015年達到最低營運要求。港鐵公司回覆表示，會檢討項目整體情況，以在4月向路政署簡報最新啟用安排和高鐵投入服務時間表。主席重申，財務方面的監控同樣重要，以確保項目能夠按照核准預算完成。</p> <p>港鐵公司匯報，項目整體滯後約十個月，工程計劃滯後的情況在過去數月已經放緩。港鐵公司簡介一項計劃，說明直至高鐵項目於2015年年底大體完工前，各項合約下重要工作的重要目標完成日期。港鐵公司表示，正在研究若干措施以減少滯後。</p> <p>至於西九龍總站方面，港鐵公司指出，承建商的管理層有人事變動，相信有助改善整工程進度。至於西九龍總站的連接隧道，港鐵公司表示會與承建商聯繫，改善工程進度。港鐵公司報告在南昌工地內發現圖則未有顯示的樁柱障礙物，如果問題可在三至四星期內解決，有關滯後應能在現有工程計劃下抵銷。</p> <p>港鐵公司又指出，大江埔至謝屋村隧道工程繼續滯後，正在採取緩解措施。</p> <p>港鐵公司匯報，城門通風樓建造工程進度緩慢，將會採取緩解措施。</p>
2014年2月18日	<p>路政署鐵路拓展處與港鐵公司舉行第121次協調會議，並舉行第46次合約檢討會議。港鐵公司在協調會議上仍然表示，高鐵項目的目標完工日期為2015年，並表示將於2014年4月向路政署鐵路拓展處簡報高鐵項目最新情況。</p>
2014年2月28日	<p>監委會舉行第43次會議。</p> <p>港鐵公司匯報，整體實質進度為53.2%；按原訂總綱計劃為83.8%。</p> <p>港鐵公司指出，工程效率在過去數月逐步提升，隨着西九龍總站有更多工程展開和鋪設路軌工程加緊進行，估計工程效率在未來數月會進一步提升。</p> <p>主席繼續關注工程計劃顯著滯後的情況，詢問高鐵項目可</p>

日期	事件
	<p>否在預定時間即 2015 年竣工。港鐵公司表示，一直與承建商緊密合作以達到目標，並說將為路政署安排簡報會，解說高鐵啟用的最新方案。</p> <p>港鐵公司報告，西九龍總站工程在 1 月份滯後兩星期，跨境段工程也繼續有所滯後，因為從深圳出發的第二台隧道鑽挖機的進度進一步滯後。港鐵公司表示，實施緩解措施後略見改善。</p> <p>港鐵公司匯報，城門通風樓建造工程進度仍然令人關注，該公司已安排提早展開機電工程，以抵銷滯後。</p> <p>港鐵公司表示跨境段的工程進度未如理想，又提到承建商已調動部分資源以助進行內地隧道工程。港鐵公司補充，該公司將採取一切所需措施，確保承建商會為香港方面的工程調配足夠資源。</p>
2014 年 3 月 13 日	<p>隧道鑽挖工程諮詢委員會舉行第 68 次會議，討論跨境隧道段工程。</p>
2014 年 3 月 18 日	<p>鐵路拓展處與港鐵公司舉行第 122 次協調會議，並舉行第 47 次合約檢討會議。港鐵公司在協調會議上仍然表示，高鐵項目的目標完工時間為 2015 年，並表示將於 2014 年 4 月向鐵路拓展處簡報高鐵項目最新情況。</p>
2014 年 3 月 27 日	<p>隧道鑽挖工程諮詢委員會和每月工程進度小組均舉行會議，討論跨境隧道段工程。</p>
2014 年 4 月 2 日	<p>監委會舉行第 44 次會議。</p> <p>港鐵公司匯報，整體實質進度為 54.8%；按原訂總綱計劃為 85.5%。</p> <p>港鐵公司指出，工程效率在 2 月未能達標，部分原因是 2 月份有頗長的農曆新年假期。港鐵公司表示，雖然西九龍總站的工程進度在過去數月相對穩定，但個別隧道工程進度卻滯後，特別是大江埔至謝屋村隧道工程。</p> <p>主席關注工程計劃顯著滯後的情況，詢問高鐵項目是否仍可如期在 2015 年竣工。港鐵公司回覆謂，正在檢討項目整體情況，將於 5 月向署長作出簡報。</p> <p>港鐵公司表示，項目進度在 2 月再滯後兩星期，該公司會採取措施減少滯後和提升工程效率。</p> <p>港鐵公司報告，大江埔至謝屋村隧道發生嚴重水浸事故，導致一台隧道鑽挖機被淹浸。港鐵公司指承建商正在評估鑽挖機的損壞程度，如果仍可修理，便會使用一切現有零件以更換損壞零件。港鐵公司也正與承建商研究有否可行</p>

日期	事件
	<p>的應急計劃。主席要求港鐵公司在詳細調查事故和評估相關費用及對工程計劃的影響後，報告調查和評估結果。路政署補充，所有工地均須採取預防措施，以免再有同類事故發生。</p> <p>至於西九龍總站方面，港鐵公司表示工程效率遠遜於預期，導致工程進度多重滯後。有關方面已制訂詳細工作計劃，確保承建商集中為最關鍵項目施工。</p> <p>港鐵公司報告，跨境段工程進一步滯後。香港方面的工程必須達到原訂進度，才能抵銷內地段工程的滯後。</p>
2014年4月12及13日	<p>港鐵公司的行政總裁和主席分別致電局長，告知高鐵建造工程的竣工時間會由2015年延誤至2016年年底，即高鐵將於2017年才投入服務。港鐵公司工程總監也致電署長，告知相同信息。</p>
2014年4月13日	<p>署長和鐵路拓展處與港鐵公司工程總監及其下屬開會，查詢後者對高鐵經修訂的總綱計劃的最新評估，當中計及西九龍總站追回進度的措施和合約823A下水浸浸壞隧道鑽挖機事宜。港鐵表示他們仍然與相關的承建商準備一個切合實際情況的計劃以緩解現時的延誤，並會相應地知會署長。</p>
2014年4月14日	<p>局長和運房局相關人員和以及署長會見港鐵公司的主席、行政總裁及工程總監。局長着令港鐵公司就高鐵工程進度提交全面評估報告，包括就工程重大延誤提供具體而適當的解釋。</p>
2014年4月15日	<p>局長通知公眾，剛收到港鐵公司的口頭通知，指高鐵工程將會延期完工。他已着令港鐵公司提交全面評估報告。與此同時，他已責成路政署署長就高鐵工程進度進行獨立審視和評估。</p> <p>港鐵公司其後舉行記者會，說明高鐵工程的完工時間將延至2016年，高鐵香港段可於2017年投入服務。</p>
2014年4月16日	<p>監委會舉行特別會議。署長要求港鐵提供進一步資料，以協助路政署詳細分析高鐵項目的最新進展情況。</p>
2014年4月16日	<p>運房局常任秘書長(運輸)去信港鐵公司行政總裁，重申局長的要求，即港鐵公司必須提交全面報告。信中訂明，有關報告須於一個星期內提交。</p>
2014年4月17日	<p>港鐵公司行政總裁回覆局長，表示因應港鐵公司董事局小組委員會分別訂於2014年4月29日和5月5日舉行的會議，港鐵人員正加緊擬備全面匯報。港鐵公司會致力盡快</p>

日期	事件
	向政府提供匯報內容，時間相信為「下周稍後時間」。
2014年4月 22日	運房局常任秘書長(運輸)去信港鐵公司行政總裁，述明政府希望港鐵公司在2014年4月24日或之前備妥全面評估報告。信中訂明，除非港鐵公司提出異議，否則該報告會讓小組委員會和公眾閱覽。

## 運輸及房屋局

2014年4月

二零一三年五月

資料文件

## 廣深港高速鐵路香港段 項目進展及財政狀況

### 目的

應立法會鐵路事宜小組委員會的要求，本文件回應近日傳媒有關廣深港高速鐵路香港段（下稱「高鐵香港段」）項目的事宜，特別是其進展及財政狀況，以供參閱。

### 整體工程進度和時間表

2. 政府委託香港鐵路有限公司（下稱「港鐵公司」）進行高鐵香港段的設計及建造工程，項目已於二零一零年一月動工興建，所有主要土木工程及機電工程合約亦已經批出，目標是於二零一五年竣工。我們一直密切監督港鐵公司的工程，以確保項目能如期完成、不會超出核准工程預算，以及符合施工質素的要求。我們會繼續與相關各方緊密合作，以期工程可以按預算並如期完成。

3. 截至二零一三年三月三十一日，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，高鐵總站最南端部分已挖掘至地下 B4 層，首兩層的主體結構已完成。至於總站北工程遇上未能預計的地質情況，港鐵公司正與承建商商討可行的措施以恢復

目標進度，以期不會影響整個高鐵項目的完工時間。

4. 石崗的緊急救援處及列車停放處之所有地下連續牆工程已經完成，十四座建築物已完成當中七座的結構工程。機電設備裝置工程已於高鐵總站及石崗的緊急救援處及列車停放處開展；而高鐵列車的設計已完成，並於二零一三年四月投入生產。

5. 政府相關部門（包括路政署、屋宇署等）及港鐵公司已就高鐵香港段項目的規劃及設計進行了全面而謹慎的評估，確保項目的設計及施工方法均為安全及切實可行。然而，在建造過程中遇上比預計困難的情況亦是十分普遍，港鐵公司會與承建商保持緊密溝通，商討最合適的方案以應對有關情況。

6. 高鐵總站設計早於工程開展前已經完成，而在工程期間亦會因應實際情況，例如未能預見的地質情況等，在有需要時就設計作出微調及採用更優化的方案，港鐵公司亦會與承建商緊密溝通，從而制定合適的施工方案。路政署聯同其他相關部門，以及港鐵公司亦會審慎批核承建商提出的各項措施，確保對工程的進度、成本、以至對社區的影響減至最低。

## 項目財政狀況

7. 在二零一二年年底，所有主要土木工程及機電工程合約已經批出，合約總值達 448 億 1 200 萬元。截至二零一三年三月三十一日，累計開支為 244 億 1 800 萬元。

8. 一般在基建項目建造過程中，承建商遇上比預計困難的情況時會發生，若因為應付有關情況而需要使用較多時間或轉用較合適的施工方法及機械，港鐵公司會按工程合約條款處理，評估各方案對工程的整體影響，在有需要時根據合約條款支付承建商合理的額外開支。在項目的撥款中，我們已預留款項以應付建造過程中未能預見的情況，以二零零九年價格計算，為高鐵香港段工程所預留的應急費用約為 54 億元。

9. 在承建商的申索開支方面，根據合約，承建商有責任按合約要求在指定時間內完成有關工程。當遇上在準備標書時未能預計的情況（如進行地基或挖掘工程時遇到較預期為多或複雜的障礙物，而承建商可能需要使用較多時間或轉用較合適的機器，以處理有關情況），承建商可根據合約的相關條款向港鐵公司提出申索。

10. 因應不同申索個案的複雜程度，處理個案往往需時。如申索個案的論證過程比較複雜，港鐵公司可能需要較長的時間，根據有系統的索償原則要求，與承建商商討其個案的理據是否合理。在商定過程中，承建商有責任提供充足的理據及資料細節，作為申索的合理依據。港鐵公司會嚴格遵守合約條款及既定程序審批每項申索。

11. 如當中涉及詳細調查及分析承建商所提供的資料文件，港鐵公司便需要不同的專業意見來審視索償是否有效和索償金額是否合理。如承建商對審批結果有異議，便需要作進一步覆檢和研究，以商討可行的解決方案。因此，處理工程申索需時，往往未必能在項目完



成前解決，甚至有時需要以解決糾紛的機制(例如調停、仲裁及訴訟)來處理。

12. 截至二零一二年年底，已獲解決的申索共 97 宗，並已發放約 10 億 4 900 萬元。港鐵公司正繼續審慎處理尚未解決的申索個案。其中，就高鐵總站北工程的進度(即近日公眾較關注的工程)，由於在地基及地盤平整工程施工期間，承建商指出遇到未能預計的地質情況而受到影響，港鐵公司正與承建商商討可行的措施以克服有關的問題，以期恢復目標進度。根據現時估算，項目的應急費用足夠應付有關的申索開支。

13. 鑑於高鐵香港段項目的規模，我們成立了高層次的跨部門項目監管委員會，由路政署署長領導，定期與港鐵公司及相關政府部門舉行會議，在不同層面監察項目的推展及財務情況(包括檢討項目進度、監察採購活動、成本控制和有關合約申索的情況等)，並就任何影響高鐵香港段項目的事宜向港鐵公司提供指引。

14. 此外，路政署有委聘工程顧問，協助進行項目監察和核證的工作，範圍包括建造安全、技術、系統及管理程序、施工進度及財務狀況等，並審視港鐵公司就承建商申索的處理。

### 南昌站樁柱移除工程

15. 高鐵香港段項目在設計階段曾探討採用不同的隧道走綫方案。於二零零九年十月獲行政會議授權通過的高鐵香港段方案，採用對社

區影響最少的方案，全部隧道將於地底興建。市區南段隧道的走綫已盡量採用現有較闊的行車道下面以隧道鑽挖機建造，如海泓道及深旺道。整體而言，這走綫途經的樓宇數目較少，對社區的影響亦相對較低。

16. 市區樓宇密集，隧道難以避免會與一些建構物相抵觸而需要相應搬遷、調整或重置。南昌上蓋物業與西鐵的規劃始於九十年代，早年在興建西鐵時，已預留部分興建上蓋物業的樁柱，由於部分當時預留的樁柱與高鐵隧道有所抵觸，因此需要進行改動及移除，讓隧道鑽挖機通過。隧道旁邊會重置鑽孔樁，以代替原來的樁柱，承托南昌上蓋將來的物業發展。有關工程是高鐵香港段項目的一部份，並已於二零零九年高鐵香港段項目刊憲方案上顯示，及於二零零九年十一月發出的「有關鐵路及非鐵路建造工程費用增加的補充資料文件」向立法會鐵路事宜小組委員會匯報。

17. 隧道鑽挖機會兩次經過南昌站的位置，以興建高鐵南北行隧道，現時隧道鑽挖機已順利通過南昌站（南行隧道）一次，餘下的樁柱移除工程現正順利進行，預計在隧道鑽挖機第二次通過南昌站（北行隧道）位置前完工。

### **對大角咀樓宇安全的關注**

18. 高鐵路香港段項目的一部隧道鑽挖機（南行隧道）已於二零一二年十一月第一次順利通過大角咀區，並繼續向油麻地方向進發，預計隧道鑽挖機（北行隧道）將於二零一四年第二季再次經過大角咀區的

地底。

19. 政府及港鐵公司一直十分重視高鐵工程對社區設施及樓宇結構安全的影響。港鐵公司按照《建築物條例》及相關安全要求，進行項目的設計及建造，以確保鐵路工程不會影響沿線建築物的結構安全。

20. 港鐵公司自二零一二年開始於大角咀區內及相關樓宇設置監測點，並於工程進行期間一直密切監測樓宇、地面及公用設施等的情況。港鐵公司一直定期向路政署提交監測報告，供相關部門審閱。到目前為止，所有監測數據均屬預期水平之內，高鐵工程並沒有影響現有樓宇的安全。

21. 港鐵公司有既定程序處理一般的樓宇損毀報告。當接獲有關報告後，港鐵公司會安排工程團隊及承建商代表與當事人進行實地視察及專業評估，以瞭解相關的損毀情況是否因工程所導致。港鐵公司亦會於部份大廈內安裝裂縫計，進一步加強對樓宇的監察及確保樓宇和居民之安全。我們及港鐵公司一直以建造安全為首要考慮，會繼續密切監察工程及與居民保持溝通。

**運輸及房屋局**

**二零一三年五月**

## 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展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