

**立法會**  
***Legislative Council***

LC Paper No. PWSC141/16-17  
(These minutes have been seen  
by the Administration)

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**Public Works Subcommittee of the Finance Committee  
of the Legislative Council**

**Minutes of the 12<sup>th</sup> meeting  
held in Conference Room 1 of the Legislative Council Complex  
on Wednesday, 22 March 2017, at 8:30 am**

**Members present:**

Ir Dr Hon LO Wai-kwok, SBS, MH, JP (Chairman)  
Hon Charles Peter MOK, JP (Deputy Chairman)  
Hon Abraham SHEK Lai-him, GBS, JP  
Hon Tommy CHEUNG Yu-yan, GBS, JP  
Hon Jeffrey LAM Kin-fung, GBS, JP  
Hon Starry LEE Wai-king, SBS, JP  
Hon CHAN Hak-kan, BBS, JP  
Dr Hon Priscilla LEUNG Mei-fun, SBS, JP  
Hon WONG Kwok-kin, SBS, JP  
Hon Paul TSE Wai-chun, JP  
Hon LEUNG Kwok-hung  
Hon Claudia MO  
Hon Michael TIEN Puk-sun, BBS, JP  
Hon Steven HO Chun-yin, BBS  
Hon Frankie YICK Chi-ming, JP  
Hon WU Chi-wai, MH  
Hon YIU Si-wing, BBS  
Hon MA Fung-kwok, SBS, JP  
Hon CHAN Chi-chuen

Hon LEUNG Che-cheung, BBS, MH, JP  
Dr Hon KWOK Ka-ki  
Hon KWOK Wai-keung  
Dr Hon Elizabeth QUAT, JP  
Dr Hon CHIANG Lai-wan, JP  
Hon Alvin YEUNG  
Hon CHU Hoi-dick  
Dr Hon Junius HO Kwan-yiu, JP  
Hon HO Kai-ming  
Hon LAM Cheuk-ting  
Hon Holden CHOW Ho-ding  
Hon SHIU Ka-chun  
Hon Wilson OR Chong-shing, MH  
Hon CHAN Chun-ying  
Hon Tanya CHAN  
Hon CHEUNG Kwok-kwan, JP  
Hon HUI Chi-fung  
Hon LAU Kwok-fan, MH  
Hon Kenneth LAU Ip-keung, MH, JP  
Hon KWONG Chun-yu  
Hon Jeremy TAM Man-ho  
Dr Hon YIU Chung-yim  
Dr Hon LAU Siu-lai

**Members absent:**

Hon CHAN Han-pan, JP  
Hon Alice MAK Mei-kuen, BBS, JP  
Dr Hon Fernando CHEUNG Chiu-hung  
Dr Hon Helena WONG Pik-wan  
Hon Andrew WAN Siu-kin  
Hon Nathan LAW Kwun-chung

**Public officers attending:**

Mr Raistlin LAU Chun, JP

Deputy Secretary for Financial Services and  
the Treasury (Treasury)3

Mr HON Chi-keung, JP	Permanent Secretary for Development (Works)
Mr Michael WONG Wai-lun, JP	Permanent Secretary for Development (Planning and Lands)
Mr Donald TONG Chi-keung, JP	Permanent Secretary for the Environment
Ms Margaret HSIA Mai-chi	Principal Assistant Secretary for Financial Services and the Treasury (Treasury) (Works)
Mr YAU Shing-mu, JP	Under Secretary for Transport and Housing
Ms Rebecca PUN Ting-ting, JP	Deputy Secretary for Transport and Housing (Transport)1
Mr Raymond CHENG Nim-tai	Principal Assistant Secretary for Transport and Housing (Transport)7
Mr Daniel CHUNG Kum-wah, JP	Director of Highways
Mr Jimmy CHAN Pai-ming	Principal Government Engineer (Railway Development) Highways Department
Mr Frankie CHOU Wing-ping	Chief Engineer (Railway Development)1-2 Highways Department

**Attendance by invitation:**

Dr Philco WONG	Projects Director MTR Corporation Limited
Mr Ken WONG	General Manager (Projects) MTR Corporation Limited
Mr Stephen YAU	Manager (Estimates, Cost Control and Logistics) MTR Corporation Limited



Unfavourable ground conditions

3. Referring to the supplementary information paper ([LC Paper No. PWSC114/16-17\(01\)](#)) (Chinese version), Dr YIU Chung-yim and Ms Tanya CHAN requested MTR Corporation Limited ("MTRCL") to clarify which of the drill hole records indicated that the actual properties of the rocks were different from the geological information obtained by ground investigations during the design stage.

4. General Manager (Projects), MTR Corporation Limited ("GM/MTRCL") replied that according to Annex 1 of the supplementary information paper, MTRCL had referred to the information of 11 drill holes in the open cut excavation portion of Admiralty Station, which included the records of five new drill holes (numbers in red) and those of six existing drill holes (numbers in blue). For the investigation location in Hong Kong Park, MTRCL had referred to the information of 24 drill holes, including the records of three new drill holes and those of 21 existing drill holes. During the design and tender preparation stage, MTRCL had assessed the potential risks arising from the underground conditions and estimated the geological conditions of the site at Admiralty Station based on the geological data and information available at the time. The Geotechnical Baseline Report was developed and incorporated into the tender as the referenced geotechnical baseline for both parties in the tendering process.

5. Citing the content of the supplementary information paper ([LC Paper No. PWSC114/16-17\(01\)](#)) (Chinese version), Dr YIU Chung-yim pointed out that the remark "extremely weak" was found in some drill hole records, and MTRCL should step up vigilance. Dr YIU and Ms Tanya CHAN noted that MTRCL had imposed additional stabilization works and temporary propping works at the expanded Admiralty Station. They enquired about the hardness of the bedrock surface that the construction team found during construction.

6. GM/MTRCL said that the actual average spacing between the natural joints of the rocks was one metre, which was twice as the estimated half-metre spacing. This impaired the efficiency of the excavation works to a large extent. Having considered the views put forth by experts, the Buildings Department ("BD") and the Geotechnical Engineering Office ("GEO"), MTRCL had imposed additional stabilization works and temporary propping works and adopted a more advanced propping installation with a view to monitoring and controlling the movements of the Island Line tunnel more effectively during the underpinning works. This could further reduce the risks posed to the railway operation and the passengers during the works period. Mr Jeremy TAM requested MTRCL to explain which of the drill hole records could show clearly that the actual average spacing between the

natural joints of the rocks within the area of the Admiralty Station expansion works was twice as the estimated half-metre spacing.

*(Post meeting note: After the meeting on 22 March 2017, Mr Jeremy TAM wrote to the Chairman, further indicating that he requested the Administration to provide supplementary information about the conclusion on the estimated average spacing between the natural joints of the rocks, and the laboratory sample testing reports related to the locations where the natural joint spacing of the rocks was subsequently found to be one-metre ([LC Paper No. PWSC117/16-17\(01\)](#)) (Chinese version only). The letter was referred to the Administration for follow-up. The supplementary information provided by the Administration ([LC Paper No. PWSC128/16-17\(01\)](#)) (Chinese version) was tabled at the meeting on 5 April 2017.)*

7. Dr YIU Chung-yim requested MTRCL to provide supplementary information on the actual circumstances of the three unfavourable ground conditions encountered in the expansion of Admiralty Station, which included (a) the actual average spacing between the natural joints of the rocks being twice as the estimated half-metre spacing, (b) the actual bedrock surface encountered being shallower than expected, and (c) the additional stabilization works and temporary propping works imposed by MTRCL, so as to provide justifications in support of its application for additional funding. MTRCL undertook to provide the information requested by Dr YIU after the meeting.

*(Post meeting note: The supplementary information provided by MTRCL ([LC Papers Nos. PWSC128/16-17\(01\)](#)) (Chinese version) and [PWSC128/16-17\(02\)](#)) was tabled at the meeting on 5 April 2017.)*

8. Ms Tanya CHAN enquired when the Project Supervision Committee, which was set up to monitor the Shatin to Central Link ("SCL") project, was aware of the unfavourable ground conditions encountered by the construction team during construction. Director of Highways ("DHy") advised that through its submission of monthly progress reports, MTRCL had first reported to the Highways Department ("HyD") in March 2013 the unfavourable ground conditions encountered in the expansion of Admiralty Station. It then reported to HyD in September 2014 the specific engineering implications of the unfavourable ground conditions encountered in the expansion of Ho Man Tin Station.

9. Mr WU Chi-wai expressed concern that inaccuracy in the geological information obtained from ground investigations had resulted in higher construction costs of a number of railway projects. He enquired whether the methodology of ground investigation for the advance works of SCL was flawed; if yes, the details; and whether the Administration would review and improve the current methodology of ground investigation so as to enhance the accuracy of ground investigation results. Mr MA Fung-kwok also suggested that consideration be given to revising the Geoguide compiled by GEO to raise the ground investigation standards.

10. DHy advised that the method of drill hole investigation was adopted worldwide for gauging underground and ground conditions. He agreed that increasing the number of investigation drill holes might enable engineering personnel to have a better understanding of the actual geological conditions of work sites. However, the engineering cost involved would go up as the number of drill holes increased. Permanent Secretary for Development (Works) ("PS/DEV(W)") added that the Geoguide compiled by GEO presented a recommended standard of good practice for the design, construction, monitoring and maintenance of geotechnical works in Hong Kong. Revising the Geoguide and uplifting the standards for ground investigation would have implications on all construction projects in Hong Kong and must be done with caution.

11. Mr WU Chi-wai enquired (a) about the implications of the errors in geological information on the approved project estimate; and (b) whether the cost overrun of the SCL project was the consequence of poor ground investigation of the advance works and, if so, whether the Administration should file claims against the contractors concerned. Mr WU also requested the Administration to provide supplementary information on when HyD had last conducted a "post-works" review on a major project and what that project was.

12. DHy advised that after completing a major construction project, the Administration would conduct a review which would serve as a reference in the implementation of other projects. GM/MTRCL added that the dense presence of high-rise buildings and underground foundations and utilities in the vicinity of Admiralty Station had imposed constraints to the works. As MTRCL had difficulties in drilling holes under the buildings for investigation of ground conditions, the information obtained from the ground investigations did not cover all ground conditions within the site area. The Administration undertook to provide the information requested by Mr WU after the meeting.

*(Post meeting note: The supplementary information provided by the Administration ([LC Paper No. PWSC128/16-17\(01\)](#)) (Chinese version) was tabled at the meeting on 5 April 2017.)*

13. Mr LAM Cheuk-ting asked whether MTRCL was prevented from conducting ground investigations for any area within the Ho Man Tin Station site due to the presence of buildings thereon; if yes, the proportion of the site area covered by such buildings.

14. In response, Projects Director, MTR Corporation Limited ("PD/MTRCL"), said that MTRCL had conducted ground investigations for the tunnel section between Ho Man Tin Station and Ma Tau Wai Station according to the Geoguide compiled by GEO during the design stage. However, due to the station's proximity to major trunk roads and residential buildings which imposed constraints to the drill hole investigation, MTRCL and its contractor were unable to accurately foresee all ground conditions within the tunnel.

15. Noting that the contractors had filed claims in respect of the works of Admiralty Station, the Hong Kong Park Ventilation Building and Ho Man Tin Station respectively, Mr LAM Cheuk-ting enquired about the cost of drill hole investigations conducted at the aforesaid locations, and the respective percentages of the expenditure on drilling works and settlement of contractors' claims in the approved project estimate. GM/MTRCL advised that in considering the number of investigation drill holes required during the design stage, MTRCL based its decision mainly on whether representative locations could be identified within the site area and whether the objective environment of the site imposed constraints on drill hole investigation work. The drilling cost, which accounted for a relatively small portion in the overall project expenses, was not a major factor to consider in determining the number of drill holes needed.

16. Mr LAM Cheuk-ting queried why the Administration and MTRCL had given inconsistent responses regarding the increase in the number of drill holes. He opined that MTRCL should increase the number of drill holes where feasible in order to have a more accurate grasp of the geological information. Expressing similar views, Mr MA Fung-kwok opined that obtaining more geological information by increasing the number of investigation drill holes would supposedly help reduce the possibility of encountering unfavourable ground conditions during the main construction works. He requested MTRCL to provide the cross-section plans drawn up by the contractors based on the geological information obtained from the ground investigations carried out for the expanded Admiralty Station.

17. GM/MTRCL reiterated that the actual number of locations within the site area that could be used for conducting drill hole investigation was often subject to constraints imposed by the environment. MTRCL had tried its best to increase the number of investigation drill holes. He undertook to provide the information requested by Mr MA after the meeting.

*(Post meeting note: The supplementary information provided by MTRCL ([LC Papers Nos. PWSC128/16-17\(01\)](#)) (Chinese version) and [PWSC128/16-17\(02\)](#)) was tabled at the meeting on 5 April 2017.)*

### Mechanism to monitor MTR projects

18. Dr KWOK Ka-ki, Mr LEUNG Kwok-hung and Mr KWONG Chun-yu criticized that MTRCL's performance in managing and monitoring railway/station projects was unsatisfactory. They considered that the cost overrun of the SCL project should not be borne by the public, and the Government should hold MTRCL accountable for the cost overrun of the project. Mr LAM Cheuk-ting queried the Administration's effectiveness in monitoring MTR projects. Mr CHU Hoi-dick enquired whether the entrustment agreement between the Government and MTRCL on 63TR required MTRCL to take up responsibility in the event of works delay or cost overrun. He requested the Administration to provide a copy of the relevant entrustment agreement.

19. DHy and Under Secretary for Transport and Housing ("USTH") advised that it was impossible for the Administration and MTRCL to have a completely accurate grasp of the ground conditions of the works site before the commencement of construction works. During the design stage, MTRCL was required to carry out the relevant design work based on risk assessment findings. During the construction of infrastructural projects, revisions to construction schemes would normally be made to suit the actual site conditions. According to the entrustment agreement of the advance works of SCL, MTRCL was responsible for the overall management of the SCL project. It should use its best endeavours to complete, or procure the completion of, the entrustment activities in accordance with the entrustment programme. At any time MTRCL was in breach of any of its material obligations under the entrustment agreement, the Government was entitled to pursue claims against MTRCL for breach of contract. However, no alleged breach of obligations under the entrustment agreement was found on the part of MTRCL at the present stage. DHy undertook to provide the information requested by Mr CHU after the meeting.

*(Post meeting note: The supplementary information provided by the Administration ([LC Paper No. PWSC128/16-17\(01\)](#)) (Chinese version) was tabled at the meeting on 5 April 2017.)*

20. Dr Junius HO noted that given the high construction cost of the SCL project and the fact that the contingencies would soon be exhausted, the Administration needed to seek additional funding to meet the additional project expenses. He opined that the mechanism adopted by the Administration for monitoring MTR projects was inadequate, and urged the Administration to review and adjust the mechanism.

21. PS/DEV(W) replied that the Administration had established the Project Cost Management Office ("PCMO") to devise cost control and cost reduction measures for capital works projects. It planned to report to the Panel on Development on the specific work of PCMO in May. USTH stressed that HyD committed its full effort to supervise the work of MTRCL. At any time MTRCL was in breach of any of its material obligations under the entrustment agreement, the Government was entitled to pursue claims for breach of contract. As the owner of the railway section, the Administration had to absorb the additional expenses arising from unexpected ground conditions.

22. Mr WU Chi-wai was worried that contractors might pursue claims against MTRCL on the grounds that erroneous ground investigation results had led to cost overrun of the project, and this would result in a substantial increase in the project cost. Mr WU and Mr LAM Cheuk-ting were concerned how the Administration would prevent possible conflict of interest between MTRCL and its contractors. Mr MA Fung-kwok enquired whether the Administration and MTRCL had taken appropriate follow-up actions concerning the ground investigation report submitted by the contractor.

23. DHy advised that there were established mechanisms under the Administration for preparing, monitoring and reviewing project estimates. HyD and the monitoring and verification consultant it engaged had the responsibility to perform monitoring work by conducting regular checks and reviews on the works progress. MTRCL was required to submit a ground investigation report for approval by BD before the commencement of construction works, and GEO would provide professional advice on the ground investigation report. The procedures were in line with those applied to private developers for commencing construction works. PS/DEV(W) reiterated that the Geoguide compiled by GEO provided general standards for engineering personnel in ground investigation work. For individual projects, the number of investigation drill holes required might be adjusted based on

the judgment of engineering professionals. PD/MTRCL supplemented that every project was carried out under the supervision of registered engineers.

24. Mr WU Chi-wai requested the Administration to provide supplementary information, including the ground investigation report submitted by MTRCL to the government departments concerned, and the advice given by such departments regarding the report. The Chairman remarked that the Administration might provide a gist of the ground investigation report submitted by MTRCL to the government departments on 63TR and the advice given by the departments concerned (i.e. BD and GEO) regarding the report, or it might provide the said report where feasible. The Administration undertook to provide the information requested by Mr WU after the meeting.

*(Post meeting note: The supplementary information provided by the Administration ([LC Paper No. PWSC128/16-17\(01\)](#)) (Chinese version) was tabled at the meeting on 5 April 2017.)*

25. Mr Michael TIEN pointed out that the Administration had entrusted the design and construction of the Hong Kong section of the Guangzhou-Shenzhen-Hong Kong Express Rail Link to MTRCL and adopted the monitoring and verification ("M&V") role in overseeing MTRCL's performance (i.e. a monitor and verifier). He enquired whether the Administration had, in its role as a monitor and verifier, stepped up its monitoring of the SCL project and whether GEO had conducted on-site inspections on the ground investigation work under the project; if GEO had done so, the relevant on-site inspection reports should be provided. PD/MTRCL said that BD and GEO would examine the geotechnical plans, geotechnical assessment, geotechnical reports, etc., submitted by MTRCL under the project. MTRCL also appointed qualified registered geotechnical engineers to supervise the works, and arranged professionals to carry out on-site surveillance and follow-up actions. DHy said that he would relay Mr TIEN's requests to the relevant departments.

*(Post meeting note: The supplementary information provided by the Administration ([LC Paper No. PWSC128/16-17\(01\)](#)) (Chinese version) was tabled at the meeting on 5 April 2017.)*

26. Mr WU Chi-wai further enquired whether railway projects owned by MTRCL had experienced cost overruns; if so, the details thereof. DHy said that for the two stations involved in the advance works of the SCL project, part of the works was carried out under the same engineering contract for MTRCL-owned railway projects. PD/MTRCL supplemented that cost

overruns had occurred in the construction of the South Island Line (East) and Kwun Tong Line Extension.

Use of contingencies

27. Citing Enclosure 5 to the discussion paper, Mr CHAN Chun-ying commented that the contingencies were presented in a way which might be misleading, as it did not spell out the fact that some of the contingencies had been committed to cater for the additional costs arising from various factors. Mr Holden CHOW enquired about the reasoning behind the Administration's projection that the remaining provision on contingencies of \$30 million would be sufficient to serve as contingency in future.

28. DHy said that while it was a normal practice for public works projects that a contingency provision was generally included in the project cost estimate, a higher or lower contingency percentage might be adopted for some projects. A breakdown of the itemized expenses covered by the contingencies could not serve the purpose of giving members a full picture of the use of the contingencies. As the advance works had been substantially completed, MTRCL had come up with a more accurate figure of the additional cost incurred, which had also been thoroughly examined by the Administration. The remaining provision on contingencies was estimated to suffice for future contingency needs.

29. Mr CHU Hoi-dick queried why the Administration and MTRCL had not sought additional funding from the Finance Committee ("FC") for this project at the very beginning when the contingency provision was used or at an earlier stage. DHy said that the Administration had to confirm that the contingency provision was insufficient to meet the additional costs incurred having regard to the latest works progress and ascertain the amount of additional funding required before submitting a request for additional funding.

Adjustment of the on-cost payable to MTRCL

30. Citing paragraph 23 of the discussion paper, Mr CHAN Chun-ying pointed out that the project management cost payable by the Administration to MTRCL was lowered by about \$212 million. He asked whether the Administration had lowered the project management cost payable to MTRCL because of the latter's inadequacy in supervising the project, and how the amount of cost reduction was determined. Mr Holden CHOW welcomed the Administration's downward adjustment of the project management cost payable to MTRCL. However, he was concerned whether the reduction of

project management cost was to offset part of the cost overrun of the SCL project.

31. DHy replied that in the Administration's funding application for the advance works of SCL in 2011, \$710.5 million was temporarily reserved under 63TR for paying MTRCL's project management cost for its undertaking of technical studies, design, construction supervision and contract management during the construction stage of the advance works. The amount was tentatively set based on the adopted standard, i.e. at 16.5% of the project estimate. Subsequently, HyD had appointed an independent consultant to examine the project estimate of the entire SCL project. After further negotiation with MTRCL, the Administration lowered the project management cost payable under 63TR to \$498.5 million, resulting in a corresponding decrease in the on-cost rate. The project management cost was not reduced to offset part of the cost overrun of the SCL project.

#### Cost of works and the amount of claims from contractors

32. Mr Holden CHOW asked whether the original budgeted project cost was estimated up to 2016, and whether the funding application for raising the approved project estimate had taken into account the amount of the unsettled claims from contractors.

33. In response, DHy said that when preparing the project estimate in 2011, provisions were made to cover the expenses until 2015-2016. Due to the increase in the project cost, and coupled with changes in the work procedures, the actual cash flow was different from the original estimation. Hence, the Administration needed to increase the provision for price adjustments and extend the expenditure period to 2018-2019. PD/MTRCL advised that MTRCL had examined the claims submitted in relation to the Ho Man Tin Station project, for which the certified interim payment amount was \$136 million. The current funding application had taken into account the amount of claims in relation to Ho Man Tin Station project.

34. Mr Jeremy TAM enquired about MTRCL's assessment of the unsettled claims in relation to Ho Man Tin Station project and the negotiation progress of these claims (e.g. whether MTRCL and the contractors had reached consensus on the certified interim payment amount). PD/MTRCL advised that the construction of Ho Man Tin Station involved blasting and tunnel boring works. The claims in question were single item claims for which justifications were provided. MTRCL was negotiating with the contractors on the certified interim payment amount.

35. Mr Junius HO enquired about the construction cost of the entire SCL project. In response, USTH said that no additional funding would be required for 63TR in future. 61TR was to construct the main railway works for SCL. Due to the complexity of works and the fact that the main works were still in progress, MTRCL would not be able to come up with a more realistic assessment on the cost of the main works of SCL until the second half of 2017. The Administration would seek additional funding from FC for 61TR at an appropriate time.

36. Mr HO Kai-ming expressed support for the SCL railway construction project. He enquired whether there were any differences between the technologies for the construction of railways on reclaimed land and rock strata; if so, what the differences were; and whether the cost overruns of railway projects were attributable to the differences in the drilling technologies adopted.

37. PD/MTRCL advised that the alignment of SCL was designed to mainly cater to the needs of passengers. While there were differences between the technologies for the construction of railways on reclaimed land and rock strata, the major challenge in the SCL construction project was the construction method. MTRCL had to adjust the construction scheme according to the depth of the SCL tunnels, such as using the cut-and-cover method for tunnel construction.

#### Industrial accidents

38. Mr CHU Hoi-dick requested MTRCL to provide the investigation results or reports on the causes of the three industrial accidents relating to the SCL project from 2014 to 2016, as well as information on the amount of compensation made to the injured or deceased workers. USTH said that the aforesaid industrial accidents were not related to the expansion of Admiralty Station and the construction of Ho Man Tin Station. PD/MTRCL undertook to provide the information requested by Mr CHU after the meeting.

*(Post meeting note: The supplementary information provided by MTRCL ([LC Paper No. PWSC128/16-17\(01\)](#)) (Chinese version) was tabled at the meeting on 5 April 2017.)*

39. The Chairman advised that the Subcommittee would continue discussion of this item (PWSC(2016-17)43) at the next meeting. The meeting ended at 10:30 am.

Council Business Division 1  
Legislative Council Secretariat  
26 April 2017