

**Legislative Council Panel on Transport
Subcommittee on Matters Relating to Railways**

**Progress Update of the Construction of the Shatin to Central Link
(As at 31 March 2021)**

(Translation)

Introduction

This paper reports to Members on the progress of the main construction works of the Shatin to Central Link (“SCL”) as at 31 March 2021.

Background

2. The entire SCL project is funded by the Government under the “concession approach”. The MTR Corporation Limited (“MTRCL”) is entrusted by the Government to carry out the construction of the project. SCL, with a total length of 17 kilometres, consists of the following two sections –

- (a) Tai Wai to Hung Hom Section: this is an extension of the Ma On Shan Line from Tai Wai via Southeast Kowloon to Hung Hom where it will join the West Rail Line; and
- (b) Hung Hom to Admiralty Section: this is an extension of the East Rail Line from Hung Hom across the Victoria Harbour to Wan Chai North and Admiralty.

3. Among the ten stations in SCL, stations at Hin Keng, Diamond Hill and Kai Tak commenced service following the commissioning of Tuen Ma Line Phase 1. Sung Wong Toi Station, To Kwa Wan Station, the new platforms at Ho Man Tin and Hung Hom will commence service upon the commissioning of the full Tuen Ma Line. Exhibition Centre Station and Admiralty Station are new station and the extension of an existing station respectively. Under the entire railway project, Admiralty Station and Ho Man Tin Station will become integrated stations providing interchange service to passengers of East Rail Line, Tsuen Wan Line, Island Line and South Island Line (East)(“SIL(E)”), as well as passengers of Tuen Ma Line and Kwun Tong Line Extension (“KTE”) respectively (layout of alignment and relevant stations are at **Annex 1**).

Latest Progress of the Main Works

4. The progress report of the SCL project as at 31 March 2021 submitted by MTRCL is at **Annex 2**. Our analysis and supplement on the progress report are provided below.

Tai Wai to Hung Hom Section

Tuen Ma Line Phase 1

5. The “Tuen Ma Line Phase 1” consisting of railway from Wu Kai Sha Station to Kai Tak Station was put into service on 14 February 2020.

Entire Tuen Ma Line (including the “Kai Tak to Hung Hom Section”)

6. The works for “Kai Tak to Hung Hom Section” including the Sung Wong Toi Station, To Kwa Wan Station, the new platform at Ho Man Tin Station and the new platform at Hung Hom Station relevant to the commissioning of Tuen Ma Line was completed. Further to the testing, checking and inspection over the past few months, the entire Tuen Ma Line from Wu Kai Sha Station to Tuen Mun Station is considered “safe and sound”. The Tuen Ma Line will commission on 27 June 2021 for service.

Other Works

7. Regarding the provision of a pedestrian passage connecting Pak Tai Street and Sung Wong Toi Station, MTRCL has been exploring options with less archaeological impact, and consulted the relevant working group of the Kowloon City District Council and other stakeholders in December 2020. The majority views were supportive of the proposed footbridge connecting Pak Tai Street and Sung Wong Toi Station. The MTRCL will develop in-depth study and the detailed design of Pak Tai Street pedestrian passage on the basis of the footbridge scheme and will consult the Kowloon City District Council and relevant stakeholders when the details of the scheme are available. Before implementation of the above pedestrian passage, residents near Pak Tai Street could still use the existing pedestrian crossing at Sung Wong Toi Road to gain access to Sung Wong Toi Station (see **Annex 3**). The additional at-grade crossing at Tam Kung Road for the reduction of the walking distance between Pak Tai Street area and the station

entrance/exit is substantially completed for public use to tie in with the full commissioning of Tuen Ma Line.

8. In addition, MTRCL engaged a consultant in March 2021 to commence a 5-year monitoring for Hung Hom Station Extension, North Approach Tunnels, South Approach Tunnels and Hung Hom Stabling Siding. Professional staff will monitor closely if the station structure, groundwater level, groundwater seepage, and other conditions are within expectations. Long term monitoring includes those works and requirements raised in the Final Report of the Expert Adviser Team for the SCL project, i.e. the monitoring and inspection at critical locations in respect of long term structural performance, durability and insufficient construction record, and the restrictions and preventive measures premised on the design assumptions of the updated design. Site monitoring commenced in April 2021. MTRCL will report the results of assessment of the long term monitoring consultant to the Highways Department (“HyD”). HyD has appointed an independent expert to participate in the review of the comprehensive assessment results of the long term monitoring.

Hung Hom to Admiralty Section

Bifurcation Works on the East Rail Line (EAL) near Hung Hom Station

9. Part of the bifurcation works on the EAL near Hung Hom Station was completed before the new signalling system commenced service on 6 February 2021. The remaining works are being implemented progressively. To recover delay, with the consent of Government department, the MTRCL has suspended train service between Hung Hom and Mongkok East on three Sundays to carry out bifurcation works.

Cross Harbour Section (Section of the tunnel across Victoria Harbour)

10. With work of the cross harbour tunnel section substantially completed, MTRCL was testing the signalling system.

11. Upon completion of the phased seabed improvement works in the Causeway Bay Typhoon Shelter (CBTS), MTRCL had gradually started re-arranging the permanent mooring of vessels affected by the previous works. MTRCL would continue communicating with relevant government departments and stakeholders within CBTS.

Hong Kong Island Section (Section of Railway between Wan Chai North and Admiralty Station, including Exhibition Centre Station)

12. The ongoing construction activities at the Hong Kong Island Section comprise the structural works, building services and E&M works at the Exhibition Centre Station and Western Approach Tunnels, as well as the foundation works for the re-provisioning of Wan Chai Sports Ground. In addition, to facilitate the remaining construction works of the Exhibition Centre Station and the road improvement works entrusted by other project, it is necessary to continue with the staged implementation of the temporary traffic management measures at Wan Chai North.

13. The details about the settlement monitoring points in Wan Chai North were presented at the special meeting of Subcommittee on Matters Relating to Railways on 31 August 2018 as well as the subsequent quarterly progress updates. According to MTRCL's monitoring data, the cumulative settlement of the affected facilities near Exhibition Centre Station, including buildings, public utilities and roads, does not exceed the pre-set or updated trigger levels. During the period from 1 January to 31 March 2021, the pre-set trigger levels remained unchanged.

14. The structural works at Admiralty Station and the south overrun tunnel were completed. Building services works and electrical and mechanical (E&M) works at the station and overrun tunnel are underway.

New Signalling System of the East Rail Line

15. On 21 January 2021, MTRCL submitted the Investigation Panel Report and the Technical Investigation Report prepared by the Investigation Panel and MTRCL respectively to the Government providing suggestions and improvement measures in relation to the abnormalities revealed during the test on the new EAL signalling system in May 2020, and the suspension of the commissioning of new EAL signalling system in September 2020. After vetting the reports and based on the tests involved in the past months, the Government approved on 1 February 2021 that the new EAL signalling system could commence service. The new EAL signalling system and the new 9-car trains commenced service on 6 February 2021. The EAL was being operated with a mixed fleet of new 9-car trains and old 12-car trains, and with the progressive replacement of old 12-car trains by the new 9-car trains.

Report of the Independent Audit Panel for Implementation of Recommendations in the Final Report of the Commission of Inquiry into the Construction Works at and near the Hung Hom Station Extension under the Shatin to Central Link Project (“the Panel”)

16. The Government re-appointed the Panel in June 2020 to conduct independent follow-up audit on the progress of implementation of the measures recommended in the Final Report of the Commission of Inquiry into the Construction Works at and near the Hung Hom Station Extension under the Shatin to Central Link Project. The Panel submitted a report (“the Second Audit Report”) to the Chief Executive on 26 March 2021, which was uploaded to the Transport and Housing Bureau website¹ on 23 April 2021. The key findings of the Second Audit Report are at **Annex 4**.

Impact of COVID-19 Pandemic on Construction Works

17. According to the information provided by MTRCL, as of end March 2021, although the COVID-19 pandemic had impacted the progress of some individual contracts, the overall progress of the SCL project had not been affected. However, given the continuous change in pandemics, it is still uncertain whether eventually there would be significant impact on the SCL project. MTRCL will continue monitoring closely the overall construction works progress.

Conclusion

18. The effectiveness of progress recovery measures is most critical to whether the target commissioning date for “Hung Hom to Admiralty Section” could be maintained as the first quarter of 2022. Two critical works activities, being conducted by MTRCL, included the bifurcation works (above paragraph 9), and the new signalling system (above paragraph 15) to facilitate the delivery of new 9-car trains to Hong Kong for testing and service. The HyD has urged the MTRCL to expedite its assessment of the implication of the suspension of new EAL signalling system on the commissioning date for “Hung Hom to Admiralty Section” and investigate and implement feasible delay recovery measures. With the commissioning of the full Tuen Ma Line, the Government anticipated that the MTRCL would seriously and actively implement all feasible measures such that the public could be aware of the completion date of the relevant extension, passengers

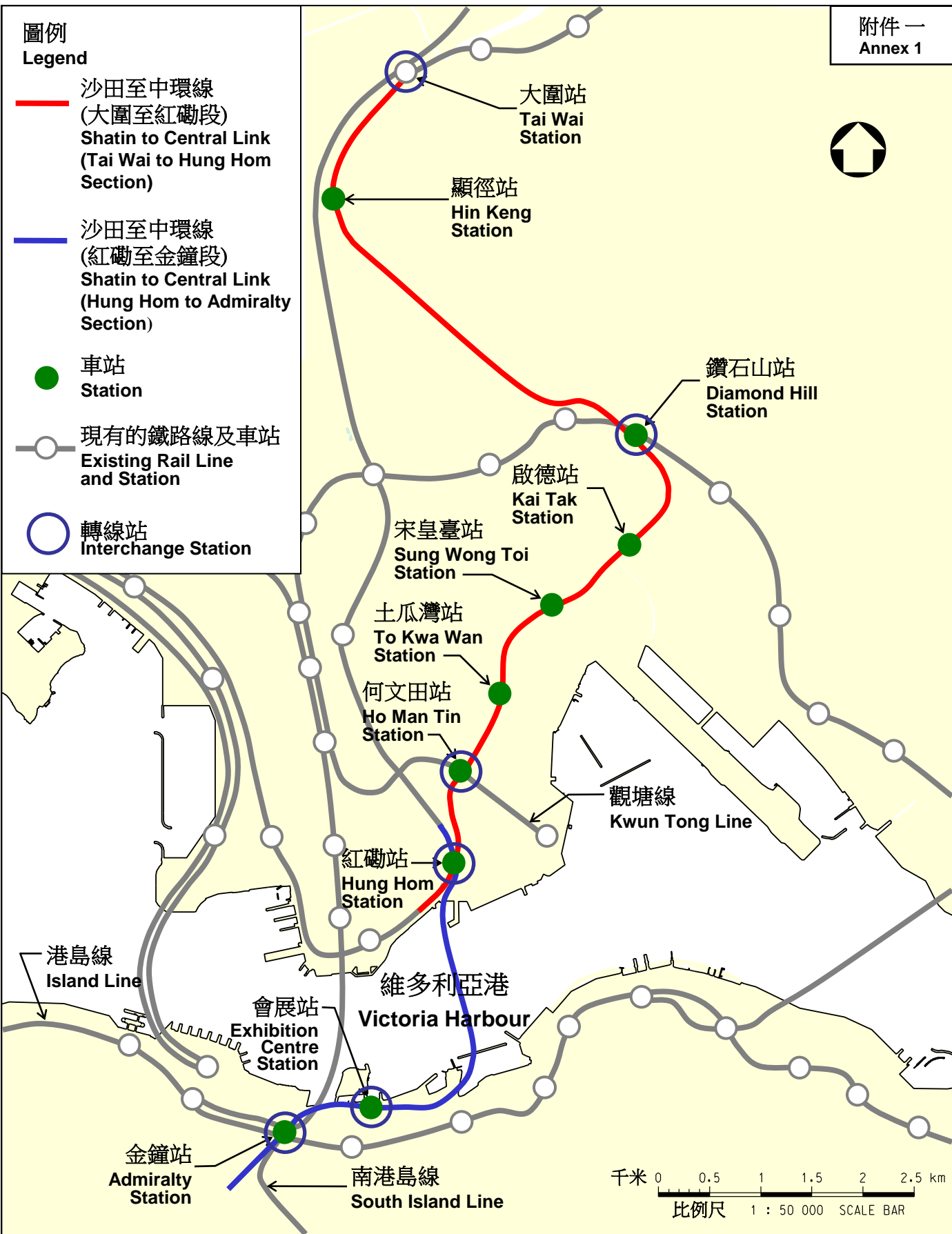
¹ www.thb.gov.hk/eng/psp/publications/transport/studies/index.htm

could benefit and the peak hour congestion of the cross harbor section of Tsuen Wan Line could be relieved at the earliest. The Government would closely monitor the progress of the completion of the project by MTRCL.

Transport and Housing Bureau
Highways Department
May 2021

圖例
Legend

- 沙田至中環線
(大圍至紅磡段)
Shatin to Central Link
(Tai Wai to Hung Hom Section)
- 沙田至中環線
(紅磡至金鐘段)
Shatin to Central Link
(Hung Hom to Admiralty Section)
- 車站
Station
- 現有的鐵路線及車站
Existing Rail Line and Station
- 轉線站
Interchange Station



圖則名稱 drawing title

沙田至中環線的走線

Alignment of the Shatin to Central Link

圖號 drawing no.

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路政署
HIGHWAYS DEPARTMENT

**Legislative Council Panel on Transport
Subcommittee on Matters Relating to Railways**

**Progress Update of the Shatin to Central Link
(As at 31 March 2021)**

INTRODUCTION

This report updates Subcommittee members on the progress of Shatin to Central Link (“SCL”) as at 31 March 2021.

OVERVIEW OF THE SCL PROJECT

Works progress

2. As at 31 March 2021, the overall works for SCL were 97% complete. The progress of the Hung Hom to Admiralty Section is 92.7% complete whilst works of the Tai Wai to Hung Hom Section, which links up the West Rail Line and former Ma On Shan Line to form the full Tuen Ma Line (“TML”) is entirely complete.

3. The TML will open for passenger service on 27 June 2021. Trial operations of the full TML have entered the final stage and final preparations for the commencement of passenger service are underway. To ensure smooth integration with the existing railway lines, and to test train services as well as associated facilities in order to comply with approval conditions of the relevant Government departments for the full commissioning, extra full line train tests have been conducted during non-traffic hours over several nights since April 2021.

4. To minimise impact to passenger service, most of the full line train tests were conducted during non-traffic hours with the exception of one test conducted in the early morning of 2 May 2021 which simulated the running of the full TML under peak hours frequency. The test required more time for the preparation, testing and the subsequent work to resume passenger service, hence inevitably extended to part of the normal operating hours in the morning. Free shuttle bus services were provided and prominent notices and public announcement at stations were in place during the service adjustment. More than 500 additional staff were deployed on that

day to provide assistance to passengers. The testing was successfully completed and the train services of TML Phase 1 and West Rail Line (“WRL”) on 2 May 2021 commenced at around 6:40 am and 7:10 am respectively, ahead of the scheduled opening time at 7:30 am.

5. In preparation for extending the East Rail Line (“EAL”) across the harbour to Admiralty Station, critical works on EAL are being carried out progressively. These include the commissioning of the new signalling system and the gradual introduction of new 9-car trains on EAL to replace the existing 12-car EAL trains (known as mixed fleet operations (“MFO”)) and the track bifurcation works at the north of Hung Hom Station, i.e., realignment of the EAL tracks to bring trains to the new Hung Hom platforms and cross-harbour rail tunnel. After the completion of these works, full line dynamic train testing and reliability testing will be conducted, followed by trial operations and finally commencement of passenger service.

6. The new EAL signalling system and first 9-car trains commenced service on 6 February 2021, following completion of verification testing to confirm technical and service reliability and approval from the relevant Government departments.

7. Measures have been implemented to minimise any impact of the COVID-19 pandemic, including utilisation of local support, identifying alternative suppliers of materials and using technology to facilitate remote inspections. Active works sites are only allowing entry of workers who possess negative COVID-19 test results issued within 14 days, in support of the appeal made by the Construction Industry Council and the Hong Kong Construction Association.

8. The targeted commencement of passenger services on the Hung Hom to Admiralty Section (East Rail Line extending to Admiralty Station) in the first quarter of 2022 remains a critical challenge. Based on the commencement date of the EAL new signalling system, we are re-assessing the programme and exploring possible recovery measures to recoup as much as practicable of the delay. A holistic assessment of the programme of the Hung Hom to Admiralty Section is underway in conjunction with the Government.

Outstanding non-railway works under TML Phase 1

9. For the Wong Tai Sin Public Transport Terminus (“PTT”), the coach parking area at the upper deck was handed over to the relevant Government

department and opened for public use. Detailed design works for the modification of Shatin Pass Road and construction of the ingress and egress points of the lower deck of the PTT were substantially complete and submitted to the relevant Government department for review in November 2020. The concerned Temporary Traffic Management Scheme have been communicated to local stakeholders and the relevant engagement works are ongoing. Construction works are expected to commence in the third quarter of 2021 and corresponding temporary traffic management schemes will be implemented in phases.

10. To facilitate SCL works, part of the Ma Chai Hang Recreation Ground was demolished to make way for the ventilation building and emergency vehicular access between Hin Keng and Ma Chai Hang railway tunnels. Detailed design of the reprovisioning of Ma Chai Hang Recreation Ground commenced in September 2020, statutory procedures and coordination with relevant Government departments are ongoing, with construction expected to start in the third quarter of 2022.

Progress in other sections of SCL

(i) Sung Wong Toi and To Kwa Wan stations

11. Statutory inspections and all external finishing works at the entrances for Sung Wong Toi and To Kwa Wan stations are complete.

12. Due to archaeological discoveries in the area of Sung Wong Toi Station, the proposed subway adit connecting Pak Tai Street entrance cannot be constructed according to the original plan. More archaeological remains, including a square shape stone well and stone structures probably dating back to Song/Yuan Dynasty, were discovered at the location between Sung Wong Toi Station Entrance D and the Hong Kong Aviation Club along the revised adit alignment, which posed uncertainties to the design and construction programme.

13. To provide a timely and convenient access to Sung Wong Toi Station for nearby residents, an alternative option of a pedestrian footbridge has been developed and generally agreed by local stakeholders. The Corporation will now progress the footbridge proposal.

14. In the interim, a temporary at-grade crossing to Sung Wong Toi Station from Sung Wong Toi Road near Tam Kung Road will be opened to the public around the time of the full opening of TML.

15. For work related to To Kwa Wan Station, permanent reinstatement at Ma Tau Wai Road has been completed, while the reinstatement works of Farm Road and associated roads would commence in the second quarter of 2021.

(ii) Hung Hom Section (Section of railway between Ho Man Tin Station and Hung Hom Station)

16. Statutory inspections for the tunnel connecting Ho Man Tin and Hung Hom stations including the at-grade approach section connected into Hung Hom Station have been completed. For the mainline tunnel connecting the existing EAL to the extension of Hung Hom Station to form the cross-harbour EAL, structural works, track works and electrical & mechanical (“E&M”) installation are substantially complete. Statutory inspections have also been concluded.

17. Statutory inspections for the new TML platforms under the existing Hung Hom Station podium, the modification works in the existing Hung Hom Station, together with the testing and commissioning have been completed.

18. New platforms at the lower level under the existing Hung Hom Station podium have been constructed to facilitate the EAL extension across Victoria Harbour to Hong Kong Island. To connect the existing railway section south of Mong Kok East to the new railway north of Hung Hom Station Extension, track realignment, also known as bifurcation works, is required to bring the EAL trains to the new Hung Hom platforms, cross-harbour rail tunnel and Admiralty. The critical and more complex bifurcation works commenced in January 2021. Please refer to paragraph 52 for details.

(iii) Hung Hom to Admiralty Section

Tunnels and stations

19. The EAL will be extended across Victoria Harbour from Hung Hom to Admiralty, via the newly built fourth cross-harbour rail tunnel, with an intermediate station named Exhibition Centre (“EXC”) in Wan Chai North. Overall, the railway tunnels of Hung Hom to Admiralty Section, including the installation of major E&M systems, are substantially complete. Following the overhead line energisation in late March 2021, testing along the section has commenced.

20. Construction works for the 3-level underground EXC and the relevant railway facilities are on-going in the Wan Chai North area. The EXC was topped out in November 2020, while architectural builder's works and finishes, E&M and building services installation works are progressing in full swing and road reinstatement is in progress.

21. At Wan Chai Sports Ground, the remaining foundation works including piling works are being carried out. As unexploded wartime bombs were previously discovered in the EXC works sites during excavation, the project team is working cautiously to ensure risks are minimised. The first phase of pile extraction works to facilitate the reprovisioning of Wan Chai Sports Ground facilities is complete.

22. To facilitate SCL construction and the road improvement works entrusted to the SCL project by the Government, temporary traffic management schemes continue to be implemented in stages.

23. As reported previously, construction works have been affected by various factors, including the initially delayed handover of critical works areas under the Wan Chai Development Phase II (“WDII”) project in Wan Chai North, the need to allow flexibility for the planned topside development above EXC, the requirement for which was introduced after the commencement of the Project, and the section of diaphragm wall cofferdam entrusted to WDII not being fully completed in accordance with the design. Progress was also affected by the discovery of three wartime bombs within the site and the subsequent temporary suspension of excavation, and additional controls being introduced for excavation works. The COVID-19 pandemic has also caused localized delay. We continue to implement delay recovery measures, including the deployment of additional resources and extended working hours within the allowable period, whilst adopting suitable pandemic management measures. These are having some beneficial effect, but recovery is still a challenge. The effectiveness of the delay recovery measures is being closely monitored and the implementation of further measures will be considered if necessary.

24. At the extended Admiralty Station, architectural builder's works and finishes, building services, and E&M works including escalator installation are all progressing steadily. Testing and commissioning for the railway systems and facilities such as station control system, fire services system and escalators has commenced. Installation of the skylight at the new station Entrance E at Rodney Street is complete. Fire services

inspections are underway.

Other railway facilities

25. At Hung Hom, construction of the North Ventilation Building is complete and statutory inspections on fire services and building are also complete.

26. Fitting-out, E&M and building services installation works at the South Ventilation Building works site near Causeway Bay Typhoon Shelter (“CBTS”) are substantially complete and the relevant testing is underway.

27. Structural works for the EXC West Ventilation Building located at Fleming Road are complete, while fitting-out, E&M and building services installation works are progressing.

28. Statutory inspections for the ventilation building at Hong Kong Park are complete.

Reinstatement works

29. Marine works in the CBTS for SCL have been completed. To suit the schedule of the seabed improvement works in CBTS by the adjacent Government infrastructure project, moorings in CBTS will be reinstated in phases. Phase 1 reinstatement of mooring arrangements for the Royal Hong Kong Yacht Club is complete, relocation of Anchorage Area vessels and preparation for the subsequent phase are underway. The Corporation continues to liaise with the Marine Department and relevant stakeholders to ensure the mooring arrangements are coordinated to minimise any impact.

30. The Tunnel Approach Rest Garden near CBTS, including the model car play area and children’s play equipment, has been reinstated and handed back to the relevant Government departments in late February 2021. The temporary model car play area at Gloucester Road Garden has ceased operation.

31. The reprovisioned footbridge across Convention Avenue was opened for public use in early November 2020. Further fitting-out works continue on the footbridge as part of the final finishes.

32. The former Wan Chai Ferry Pier Public Transport Interchange, which was temporarily closed and relocated to the newly reclaimed area near Marsh Road to facilitate the EXC construction works since 2015, will be reprovisioned at its original location by 2022 subject to works progress.

33. At the Wan Chai Sports Ground, the facilities temporarily relocated in 2015 to make way for the construction works are being reinstated. The temporary facilities will be dismantled after reinstatement is complete. Relevant areas at the northern part of the Sports Ground are being closed in phases, with completion of all works expected in 2022.

QUALITY AND SAFETY OF SCL CONSTRUCTION WORKS

Commission of Inquiry (“CoI”) into the Construction Works at and near the Hung Hom Station Extension

34. The final report of the CoI released by the Government on 12 May 2020 concluded that the relevant structures at and near Hung Hom Station Extension are safe and fit for purpose with the completion of the suitable measures, which were completed in 2020.

35. The Independent Audit Panel (“IAP”), appointed by the Government to conduct independent follow-up audits with regards to the status of the implementation of the recommendations made in both the CoI Interim and Final Reports, released its final audit report on 23 April 2021, acknowledging that of the 78 recommendations¹ put forward by the CoI, 50 have been fully implemented and satisfactory progress towards the full implementation of the other 28 is being made. At the same time, the Corporation is actively implementing enhancement initiatives in project management and applying them to both current and future railway projects. The IAP recognised that upon completing these various enhancement measures in project management, the remaining recommendations will be adequately addressed. The Corporation is committed to carrying on with the recommendations and working closely with the Government in the process.

36. The final report of the Expert Adviser Team (“EAT”) on the SCL Project was released by the Government on 1 February 2021, which also noted that it is safe in practical terms to use the related built structures at

¹ Recommendations made in the CoI Interim Report were featured in the CoI Final Report with revisions or supplementations, hence are covered by the audit conducted by the IAP with regards to the CoI Final Report recommendations.

Hung Hom Station for their intended purposes after the implementation of the suitable measures. The Corporation has reviewed the comments and recommendations made in the EAT Final Report and implemented corresponding improvement measures on the project management and related fronts as the SCL Project proceeds.

37. Improvements in the Corporation's project management practices have already been incorporated into the Corporation's standard practices. These include an enhanced quality management process and organisational structure, the use of a digital reporting and supervision system, including the Request for Inspection and Survey Check ("RISC"), the Non-conformance Report ("NCR") process, site diaries and photographic records, to improve the inspection process and monitoring, and enhanced staff training. Further improvements are being developed, including new techniques that the Corporation will use to manage future projects. Examples being the use of Building Information Modelling ("BIM") and adoption of the New Engineering Contract Version 4 ("NEC4"). Both of these are already being adopted in the design consultancies for the new Tung Chung Line Extension, Tuen Mun South Extension and the Ma Chai Hang Recreation Ground.

38. The Corporation has also been working with the Government to further foster collaboration with improvements in communication at site and management levels.

Measures taken to address the settlement issue adjacent to SCL stations

39. The Government announced in September 2018 a notification mechanism for the monitoring of structures and public facilities in the vicinity of the SCL works, with a view to providing timely information to the public when the monitoring data in relation to the relevant structures and public facilities reaches or exceeds the pre-set trigger levels for the temporary suspension of works. The Corporation continues to work closely with the Government in accordance with the mechanism.

40. During the period from January to March 2021, no monitoring readings have reached or exceeded the pre-set trigger levels for temporary suspension of works, and no pre-set trigger levels have been revised.

41. Since the resumption of excavation works for Exhibition Centre Station in September 2018, no monitoring readings have reached or exceeded the pre-set trigger levels. Bulk excavation works were completed in June 2019 and the temporary supports are progressively being removed.

Monitoring will continue for some time until the settlement readings have become stable after completion of the underground structure and backfilling works, providing assurance to the safety of nearby buildings, structures and facilities.

IMPROVEMENT WORKS FOR THE OPERATING RAILWAY FACILITIES

Tuen Ma Line

42. To facilitate the 8-car train operation for TML, new 8-car trains have been procured and all 17 sets of new trains were delivered to Hong Kong by November 2018. In addition to the new trains, some of the existing train cars on former Ma On Shan Line (“MOL”), West Rail Line (“WRL”) and EAL are being modified to form the 8-car train fleet for TML.

43. All former 4-car MOL trains and 7-car WRL trains were upgraded and converted to 8-car trains by December 2017 and May 2018 respectively to prepare for 8-car train fleet for TML. Subsequent to the commissioning of TML Phase 1 in February 2020, three sets of TML new trains have been introduced into passenger service on WRL since March 2020 to facilitate the future 8-car train fleet operation.

44. The retrofitting of a total of 720 pairs of Automatic Platform Gates (“APG”) at all 9 stations of the former MOL is also complete.

East Rail Line

45. In preparation for extending the EAL across Victoria Harbour to Admiralty Station, critical works are being carried out on EAL, including MFO and the bifurcation works.

46. Following the postponement of the commissioning of the EAL new signalling system in mid-September 2020, an independent Investigation Panel was set up to investigate the matters. In parallel, a technical investigation was also conducted by the Corporation with the objective of identifying the root cause of the Route Recall issue and formulating corresponding technical solutions.

47. The Investigation Panel and the technical investigation both concluded that the issue has no impact on railway safety, and this was

confirmed by the Independent Safety Assessor engaged by the Corporation.

48. After a detailed review of the Panel Report, and with the experience gained from the incident, the Corporation decided to establish a dedicated “SCL Technical and Engineering Assurance Team”, which is directly accountable to the Chief Executive Officer, to monitor the SCL Project from both a technical and service readiness perspective and to identify important unknown issues of the remaining works of SCL project for timely reporting and follow-up. In addition, a new Service Reliability Report as part of the Government’s reviewing mechanism of the commissioning of new lines to ensure timely reporting and handling of issues with a potentially significant reliability impact. This report will complement the existing System Safety Report. The Corporation will also implement the other recommendations made in the Panel Report.

49. The EAL new signalling system and 9-car trains commenced operation on 6 February 2021.

50. To accommodate the space constraints of the new railway infrastructure on Hong Kong Island, 37 sets of new 9-car trains have been procured and are being delivered to Hong Kong progressively. The new trains, with a wider body and newly designed handrails as well as a LED lighting system, provide a more spacious and comfortable travelling environment. They are also equipped with dynamic route maps and gangway-end displays which provide more information to passengers during their journeys. The locations of the doors of the new trains are also improved, being evenly spaced along the trains, bringing more convenience to passengers when alighting and boarding.

51. During MFO, there are measures in stations to facilitate passenger familiarisation with the new boarding and alighting arrangements, including prominent blue and green signs on platforms, information display panels, clear public announcements and additional customer service staff in stations to assist passengers.

52. As mentioned in Paragraph 18, track realignment, also known as bifurcation works, are required north of Hung Hom Station to connect the existing EAL to the new SCL platforms at Hung Hom Station Extension and the newly built cross-harbour rail tunnel. Whilst the majority of the bifurcation works are planned to be carried out during the non-traffic hours, the more complex and critical works will be conducted on ten selected Sundays between January and October 2021 when the EAL service

between Mong Kok East and Hung Hom stations will be temporarily suspended. The first three Sunday service suspensions were completed on 10 January, 21 February and 18 April 2021, with passenger arrangement being overall smooth and train service resumed as normal the following day. Most of the affected passengers used the alternatives railway lines, as advised by the Corporation, to continue with their journey, while some affected passengers took the shuttle service between Hung Hom and Kowloon Tong stations. The Corporation will fine-tune the arrangement based on experience gained from the previous service suspensions to ensure the remaining closures, including the next one on 30 May 2021, will continue to be smooth.

53. Once the new 9-car trains have replaced the 12-car trains, we would then be able to work on the fitting of APGs. Installation of the APGs can only commence when the train fleet of the EAL is fully replaced by the new 9-car trains due to the different door locations on the new trains. Before fitting the APGs, platforms need to be strengthened and equipment rooms for the relevant signalling system and facilities constructed. These preparatory works are substantially complete and some early preparation for APGs fitting is underway.

COSTS

Cost and expenditure

54. Since mid-2012, 28 major civil and 30 major E&M contracts², together with other minor contracts, have been awarded with a total sum of \$57.849 billion. The contract sums for civil works and E&M works are about \$43.947 billion and \$13.902 billion respectively (Please refer to **Enclosure I**).

55. Under the Entrustment Agreement for the SCL, the Government of the Hong Kong Special Administrative Region (“the Government”) is responsible for funding the construction of the SCL.

Cost control mechanism

56. The Corporation attaches great importance to the monitoring and cost control of railway projects. The Corporation has a robust governance

² Major civil contract/E&M contract refers to any individual contract with value above \$50 million and includes Contract 11227 with a value of \$49.8 million.

framework and a set of stringent procedures governing procurement, contract administration and cost control of its projects, be it an ownership project or a concession project.

57. Under the Entrustment Agreements for concession projects, the Corporation is obliged to use the same management system and procedures that are applicable to all other MTR projects. For concession projects like the SCL project, an independent monitoring and verification system is conducted by the concerned Government authority and its consultants in addition to the Corporation's contract management and control procedure.

58. To enhance the control of expenditure, the Corporation has its Project Control Group ("PCG") as a gatekeeper, to scrutinise the assessments of variations and claims arising from consultancies and works contracts under the SCL project. Representatives from the Railways Development Office of Highways Department attend the PCG meetings.

59. Where the progress of works has been delayed, the Corporation considers implementing delay recovery measures as appropriate. Proposals for delay recovery measures including the cost and benefits implications are reviewed and approved by PCG prior to implementation. The Government is consulted on all such matters.

Latest estimate of Cost to Complete ("CTC")

60. In February 2020, the Corporation completed its further review and revalidation of the CTC of the SCL Project and notified the Government of the Corporation's latest estimate of CTC, being \$82,999.3 million, including additional Project Management Cost ("PMC") of \$1,371 million but excluding all costs related to the Hung Hom Extension Construction Incident for which the Corporation has already made a provision of \$2 billion (as detailed in Paragraph 64 below).

61. This represents an increase of \$12,172.3 million from the original estimate of \$70,827 million, which is less than the previously estimated increase of \$16,501 million which the Corporation announced in December 2017.

62. The Corporation notes that the Government considers there has been no material modification in respect of the SCL project and therefore disagrees to the inclusion of any additional PMC in the CTC. The additional funding sought by the Government and subsequently approved

by the Legislative Council on 12 June 2020 did not include any additional amount of PMC for the Corporation.

63. The Corporation announced on 19 January 2021 that as the project management fee paid by the Government as per the original PMC has been expended in full, the Corporation has made a provision of approximately \$1.371 billion so as to meet, on an interim and without prejudice basis, the cost of continuing to comply with its project management obligations under the Entrustment Agreement and meet the costs thereof, to allow the SCL project to progress in accordance with the latest programme. The Corporation will follow up with the Government for a resolution of this matter and reserves its position as to the ultimate liability for such costs and as to its rights to pursue the courses of action and remedies according to the Entrustment Agreement. The Corporation continues to exercise rigorous cost control with the objective of ensuring that construction costs are properly managed.

64. As previously announced in July 2019, to facilitate the phased opening of the TML, the Corporation agreed to fund, on an interim and without prejudice basis, the costs associated with the verification and assurance exercises and implementation of the suitable measures at the Hung Hom Station Extension and adjacent structures, as well as the costs for the preparation and implementation of TML phased opening, estimated to be around \$2 billion. Apportionment of the actual cost will be dealt with in accordance with the relevant SCL contracts.

STAKEHOLDER COMMUNICATION AND ENGAGEMENT

65. Most of the SCL works sites are in urban areas and close to local communities. We attach great importance to maintaining close communication and engagement with the local communities and the relevant stakeholders, in order to keep them informed of the works progress and to listen to their views. Apart from the regular progress updates to the Subcommittee members and respective District Councils, Community Liaison Groups, which have been set up across districts, is another major communication channel with the local communities where regular updates about SCL are provided. Newsletters, leaflets and notices about the works are distributed to the local communities. Dedicated MTR and Contractors' Hotlines are also available for handling enquiries and complaints in relating to the project.

66. While many in-person meetings and activities were called off due to the COVID-19 situation and social distancing measures, we maintain close communication with the local communities and stakeholders in appropriate and timely manners. Online meetings, websites and social media are being utilised to reach stakeholders and keep members of the public posted about the project.

EMPLOYMENT OPPORTUNITIES

67. About 1,584 construction workers and technical / professional staff members are employed for the SCL project as at 31 March 2021, which in general could meet the labour requirement. This is lower than the number employed when the project was in its construction peak. Moreover, 764 trainees have been recruited and provided with trainings and internship programmes by the contractors of the SCL project and the Construction Industry Council through the Corporation's "SCL Contractors Cooperative Training Scheme". 520 of the trainees have completed the trade test and proceeded to continue their careers in the field.

CONCLUSION

68. Members are invited to note the above information.

MTR Corporation Limited
May 2021

Expenditure report as at 31 March 2021

Table 1 – Situation of expenditure

	Awarded contract sum for the contracts (\$ million)	Cumulative expenditure of awarded contracts (\$ million)	Estimated amount of unresolved claims* (\$ million)
Civil works	43,946.5	48,048.5	1,065.6
E&M works	13,902.5	8,581.0	903.1
Total	57,849.0	56,629.5	1,968.7

* The estimated amount of unresolved claim: Amount claimed (\$2,907.5 million) – Interim award (\$938.8 million) = \$1,968.7 million (See Table 2)

Table 2 – Situation of substantiated claims

	Claims resolved			Claims unresolved		
	Number	Amount claimed (\$ million)	Amount awarded (\$ million)	Number	Amount claimed (\$ million)	Interim award (\$ million)
Civil works	558	4,553.1	2,361.0	402	1,770.8	705.2
E&M works	80	740.4	335.8	116	1,136.7	233.6
Total	638	5,293.5	2,696.8	518	2,907.5	938.8

1. The Government and the Corporation conducted risk assessment at the planning and budgeting stages of the project to minimise claims arising from the works. Nevertheless, there were often unforeseeable situations in the course of works. For instance, the foundation or excavation works might come across a larger amount of or more complicated obstructions than expected. As this would add difficulties to the works, the contractors might have to use more machines or switch to other machines that were more suitable and employ more staff to cope with these situations. The contractors would submit claims in accordance with the contract terms to cover the additional expenditures. Upon receipt of claims from contractors, the Corporation would examine such claims and assess the amount concerned based on the relevant contract terms, justifications, documents, records, etc.

2. As at 31 March 2021, the Corporation has received 1,156 substantiated claims and the amount claimed in total was about \$8,201.0 million, representing 14.2% of the awarded contract sum for the contracts. The Corporation has been discussing the details of the claims with the contractors concerned, and thoroughly assesses the amount claimed. The Corporation processes each claim in accordance with the provisions of the relevant contracts, and the contractors have to provide sufficient justifications and information. As at 31 March 2021, 638 cases were resolved and about \$2,696.8 million was awarded, representing about 4.66% of the awarded

contract sum for the contracts. Having regard to the progress of the relevant assessment and discussion, interim awards amounting to about \$938.8 million have been made for some cases.

Overall works progress of the SCL as at 31 March 2021

Overall works completed : 97%

(A) Cumulative progress of 28⁽¹⁾ major civil contracts awarded :

Contract No.	Contract Name	Percentage completed
1101	Modification of Ma On Shan Line	100%
1102	Hin Keng Station and Approach Structures	100%
1103	Hin Keng to Diamond Hill Tunnels and Fung Tak Public Transport Interchange	100%
1106	Diamond Hill Station Extension	100%
1107	Diamond Hill to Kai Tak Tunnels	100%
1108	Kai Tak Station and Associated Tunnels	100%
1108A	Kai Tak Barging Point Facilities	100%
1109	Stations and Tunnels of Sung Wong Toi and To Kwa Wan stations	100%
1111	Hung Hom North Approach Tunnels	100%
1112	Hung Hom Station and Stabling Sidings	100%
1113	Reprovisioning of New Territories South Animal Management Centre and Shatin Plant Quarantine Station	100%
1114	Pedestrian Links at Tsz Wan Shan	100%
1117	Pat Heung Depot Modification Works	100%
1119	Trackwork and Overhead Line Modification Works at Lo Wu and PHD	100%
1120	Trackwork and Overhead Line for SCL Phase 1	100%
1120B	Trackwork and Overhead Line for SCL Phase 2	99%
1121	EAL Cross Harbour Tunnels	99%
1122	Admiralty South Overrun Tunnel	99%
1123	Exhibition Centre Station and Western Approach Tunnel	96%
1124	Admiralty SCL Related Works	97%

1125	Police Sports and Recreation Club Enhancement Works	100%
1126	Reprovisioning of Harbour Road Sports Centre and Wan Chai Swimming Pool	100%
1128	South Ventilation Building to Admiralty Tunnels	99%
1129	SCL - Advance Works for Cross-harbour EAL	100%
11209	Platform Modification and Associated Works at EAL	100%
11227	Advance Works for EAL Cross Harbour Tunnels	100%

Note:

- (1) The 28 awarded major civil contracts as mentioned in Paragraph 54 of this report include Contracts 11230 and 11241. Contract 11230 is a tenancy agreement for the Joint Site Office for Contracts 1123 and 1128, and it is part of the project cost for Contracts 1123 and 1128. Contractor 11241 is the archaeological survey for connection to Pak Tai Street. As these two contracts involve no civil construction works, they are not included in the table above.

(B) Cumulative progress of 30 major E&M contracts awarded :

Contract No.	Contract Name	Percentage completed
1141A	New Rolling Stock for SCL Phase 1	100%
1141B	New Rolling Stock for SCL Phase 2	73%
1151	Rolling Stock Modification and New Train Cars for SCL Phase 1	100%
1152	Signalling System for SCL Phase 1 & Signalling System Modification for MOL and WRL	99%
1152B	Signalling System for SCL Phase 2	90%
1153	Tunnel ECS for SCL Phase 1	100%
1153B	Tunnel ECS for SCL Phase 2	93%
1154	Platform Screen Doors for SCL Phase 1 & APG Retrofit for MOL	100%
1154B	Platform Screen Doors for SCL Phase 2 & APG Retrofit for EAL	57%
1155	Power Supply System and Trackside Auxiliaries for SCL Phase 1	100%
1155B	Power Supply System and Trackside Auxiliaries for SCL Phase 2	99%
1159	Lifts for SCL Phase 1	100%
1162	TETRA System for SCL Phases 1 & 2	99%
1162B	Radio Distribution Network System for SCL Phases 1 & 2	96%
1163	AFC System and SAM System for SCL Phases 1 & 2	87%
1164	Building Services for Diamond Hill Station	100%
1164B	Building Services for SCL Hong Kong Island Section	70%
1165	Building Services for Hin Keng Station, Ma Chai Hang Ventilation Building and Fung Tak Emergency Access	100%
1166	Main Control System for SCL Phase 1	100%
1166B	Main Control System for SCL Phase 2	91%
1169	Communications System for SCL Phase 1	100%
1169B	Communications System for SCL Phase 2	76%

1172	Escalators for SCL Phase 1	100%
1172B	Lift and Escalators for SCL Phase 2	75%
1173	Building Services for Hung Hom Station and Hung Hom Stabling Sidings	100%
1175	Building Services for Kai Tak Station	100%
1176	Building Services for Sung Wong Toi Station and Ancillary Building	100%
1177	Building Services for To Kwa Wan Station and Ancillary Building3	100%
1183	EAL Signalling System Modification	100%
1191	Floodgate System for SCL Phase 2	99%

行人隧道 C 的走線 Alignment of Adit C



Existing pedestrian crossing
原有行人過路處

**Report of the Independent Audit Panel
for Implementation of Recommendations in the Final Report
of the Commission of Inquiry into the Construction Works
at and near the Hung Hom Station Extension
under the Shatin to Central Link Project**

INTRODUCTION

The Independent Audit Panel for Implementation of Recommendations in the Final Report of the Commission of Inquiry into the Construction Works at and near the Hung Hom Station Extension under the Shatin to Central Link Project (“the Panel”) submitted its report (“the Second Audit Report”) to the Chief Executive on 26 March 2021. The report was uploaded to the Transport and Housing Bureau (“THB”) website¹ on 23 April 2021. This note informs Members of the key findings of the Second Audit Report.

THE WORK OF THE PANEL

2. In its Interim Report, the Commission of Inquiry into the Construction Works at and near the Hung Hom Station Extension under the Shatin to Central Link Project (“the Commission”) put forward a list of recommendations to enhance MTR Corporation Limited (“MTRCL”)’s project management system and the Government’s monitoring mechanism to promote public safety and assurance on quality of works. The Commission also recommended in its Interim Report that a follow-up audit be conducted 12 months following the date of the Interim Report (“the First Audit”), to provide assurance to the Chief Executive that the recommended measures therein have been properly implemented and/or satisfactory progress towards their implementation is being made. With the agreement of the Chief Executive, the Panel was appointed in October 2019 to conduct the First Audit. On 26 May 2020, the Panel submitted to the Chief Executive its First Audit Report, which was published on 3 June 2020.

¹ www.thb.gov.hk/eng/psp/publications/transport/studies/index.htm

3. In its Final Report, the Commission has revised and supplemented on some of its recommendations in its Interim Report, as well as put forward several further recommendations arising from its inquiry under the extended terms of reference, making the total number of recommendations 78. Similar to the Interim Report, the Commission recommended that an independent follow-up audit be conducted 12 months following the date of the Final Report (“the Second Audit”). With the agreement of the Chief Executive, the Panel was re-appointed in June 2020 to conduct the Second Audit. The membership of the Panel and its updated terms of reference (in respect of the Second Audit) are at **Enclosure A**.

A

4. In the course of the Second Audit, the Panel convened inquiry sessions on 11 September 2020 and 15 January 2021, during which officials from the Development Bureau (“DEVB”), Highways Department and Buildings Department, as well as core members of MTRCL’s Projects, Engineering² and Legal Divisions were present to report the follow-up actions taken by the Government and MTRCL respectively, and to respond to questions from the Panel. The Government and MTRCL submitted progress reports, and additional data and information as requested by the Panel, for its perusal prior to each inquiry session. The Panel also visited the site office of the Tung Chung Line Extension project in Fo Tan on 18 November 2020 and was briefed on MTRCL’s Competency Management Procedure, the new Second Line of Defence and dashboard reporting. During the visit, the Panel was given a demonstration by MTRCL on the current adoption of Building Information Modelling in the Tung Chung Line Extension and Tuen Mun South Extension projects. The Panel also attended MTRCL’s briefing on 4 January 2021, during which Members were given a demonstration of the partly revamped Project Integrated Management System (“PIMS”) and briefed on MTRCL’s revised contractual procedures.

² The Projects Division was subsequently changed into the Capital Works Business Unit with effect from 22 February 2021 and the Engineering Division ceased to exist after 21 February 2021.

THE SECOND AUDIT REPORT

5. During the Second Audit, the Panel reviewed the implementation progress of 66 out of the 78 recommendations³, consisting of 44 outstanding recommendations in the First Audit Report, 20 new recommendations put forward in the Commission's Final Report, as well as two of the fully implemented recommendations in the Interim Report on which the Commission has made revisions and/or supplements. Having considered progress reports, other written submissions and oral presentations from the Government and MTRCL, the Panel prepared the Second Audit Report to set out the findings of the Second Audit. The key findings of the Second Audit Report are summarised in the ensuing paragraphs.

6. Amongst the 78 recommendations, 17 and 47 are to be followed up solely by the Government and MTRCL respectively, while 13 require actions by both parties. One recommendation was directed towards BOSA Technology (Hong Kong) Limited. These recommendations are broadly divided into the following six categories—

- (a) promoting public safety (1 recommendation) ;
- (b) enhancement of leadership, competence, governance and culture (18 recommendations);
- (c) promoting collaborative culture (9 recommendations);
- (d) revised arrangements for contractual and commercial issues (5 recommendations);
- (e) rationalisation and clarification of rules and requirements (40 recommendations); and
- (f) review of monitoring and verification arrangements (5 recommendations).

³ The remaining 12 recommendations were considered as fully implemented in the First Audit Report and were not revised or supplemented in the Commission's Final Report.

7. The Panel is of the view that, of the 78 recommendations, 50 have been fully implemented and satisfactory progress towards full implementation of the other 28 recommendations is being made. The summary of implementation progress of the recommendations is at **Enclosure B**. To ensure the full implementation of the remaining 28 recommendations, the Panel suggests that THB should continue to keep track of the implementation progress of these recommendations.

9. Among the 30 recommendations requiring follow-up by the Government, 29 have been fully implemented in view of the improvement measures implemented in the Shatin to Central Link (“SCL”) Project, enhanced monitoring and controlling strategies proposed for new railway projects, as well as clarification of relevant rules and requirements. The remaining recommendation concerns the review of requirements for testing of steel. To this end, DEVB, Civil Engineering and Development Department and Hong Kong Accreditation Service have established a working group to monitor the development of a product certification scheme on reinforcement steel bars, and the scheme is anticipated to be put on trial in public works contracts in late 2022.

10. As for the 60 recommendations requiring follow-up by MTRCL, 33 have been fully implemented while 27 are being implemented. Upon the completion of MTRCL’s review of its PIMS and suite of contract documents during the course of 2021, all of these remaining recommendations would be adequately addressed and fully implemented.

11. The Commission’s specific recommendation regarding the use of mechanical couplers has also been fully implemented by BOSA Technology (Hong Kong) Limited.

TRANSPORT AND HOUSING BUREAU

May 2021

**Independent Audit Panel for
Implementation of Recommendations in the Final Report
of Commission of Inquiry into the Construction Works
at and near the Hung Hom Station Extension
under the Shatin to Central Link Project**

Membership and Terms of Reference

Membership

Chairman

Mr Wong Kwai Huen, BBS, JP

Members

Ir Prof Lo Hong Kam, JP

Ir Chan Chi Chiu, SBS

Terms of Reference

In respect of the recommendations in the Final Report of Commission of Inquiry into the Construction Works at and near the Hung Hom Station Extension under the Shatin to Central Link Project (“the Commission”):

- (i) to consider progress reports from the Government and the MTR Corporation Limited on the implementation of the recommended measures;
- (ii) to review whether the recommended measures have been fully implemented and, if not, whether satisfactory progress towards full implementation is being made; and
- (iii) to prepare a report to the Chief Executive on (i) and (ii) above, together with any relevant observations or recommendations on or before 26 March 2021.

For the avoidance of doubt, recommended measures in the Commission’s Interim Report, including those that have yet to be fully implemented, are featured in the Commission’s Final Report, hence forming part and parcel of the above terms.

**Recommendations in Final Report
of the Commission of Inquiry into the Construction Works
at and near the Hung Hom Station Extension
under the Shatin to Central Link Project**

Summary of Implementation Progress

	Recommendation ¹	Action Party ²		Implementation Progress
		Gov	MTR	
1. Promoting public safety				
1.1	<p><u>On-going monitoring of station structure</u></p> <p>- Instrumentation, by means of fibre optics or other approved measures, at the east and west diaphragm walls and the East West Line and North South Line platform slabs to detect movement during operational phase of the station, and movements should be monitored and reported to the Government. On-going monitoring of the station structure during operation in the form of “Planned Preventive Inspection” regime for a period of up to five years.</p>		✓	Fully implemented
2. Enhancement of leadership, competence, governance and culture				
2.1	<u>Leadership</u>			
2.1.1	- Closer involvement of senior leaders of all parties - Government, MTR Corporation Limited (“MTRCL”) and contractors - working collaboratively to achieve a quality outcome, involving senior leaders being more visible to the workforce and taking a lead role in communicating key messages throughout their respective organisations.		✓	Fully implemented

¹ New recommendations in the Final Report as well as revisions and/or supplements to the recommendations in the Interim Report are marked in blue font and shown in blackline format

² Recommendations 1.1, 2.1.1, 2.1.3, 3.1.1, 3.1.2, 4.1, 4.2 and 5.6.4 are to be implemented jointly by the Government and MTRCL.

Recommendations 2.1.2, 2.2.1, 2.2.2, 3.2 and 3.3 are to be implemented independently by the Government and MTRCL.

2.1.2	- Leadership roles should be developed in line with the principles set out in ISO9001:2015.	✓	✓	Fully implemented
2.1.3	- Establish a cross-party Senior Leadership Forum comprising the Government, MTRCL, contractors and major sub-contractors to monitor working relationships and cultural aspects of service delivery and to agree ways of developing collaborative working.		✓	Fully implemented
2.1.4	- Review and reflect on MTRCL's leadership priorities and their implementation, particularly in relation to culture and the application of corporate procedures (e.g. as set out in PIMS/MAN/003/A6). - Develop an improvement action plan to maintain progress in the implementation of leadership priorities. - Establish a method for monitoring and measuring company culture on an ongoing basis. - Senior leaders to develop a coordinated programme of office and site visits to support the communication of corporate values, behaviours and priorities directly to MTRCL staff throughout the organisation.		✓	Satisfactory progress towards implementation (fully implemented when the new Project Management Procedure document is launched by the end of Q2 2021)
2.2	<u>Competence</u>			
2.2.1	- Review the "Competence" requirements for personnel engaged in project management/sponsorship roles and review checks and procedures to ensure ongoing competence of project-related staff.	✓	✓	Fully implemented
2.2.2	- Put in place effective measures to reduce the risk of failure by mistake, incompetence or malicious act.	✓	✓	Fully implemented
2.2.3	- Review induction training for project staff and mandate induction training and find opportunities to refresh the messages at regular intervals. - MTRCL to maintain individual training and development plans and a readily accessible system which records training undertaken and qualifications achieved by		✓	Satisfactory progress towards implementation (fully implemented when the

	individuals to ensure that individuals have completed necessary training schemes and developed the skills and competences for the tasks they are performing.			Training Plan is delivered as part of the new Project Integrated Management System (“PIMS”) and the new Project Management Procedure document is launched by the end of Q2 2021)
2.2.4	- Line managers to implement mentoring arrangements for team members to identify any weaknesses in their technical or procedural knowledge and to identify requirements for training and development.		✓	Fully implemented
2.2.5	- Assess the understanding throughout project organisations of non-contractual project partnering where it is applied to projects and, where necessary, provide further direction and training on the behaviours expected of staff working in a partnering environment.		✓	Fully implemented
2.3	<u>Governance</u>			
2.3.1	- Critically address the way in which the Government executes its multiple roles in relation to railway enhancement projects and actively consider creating an overall Government “sponsor” role for all individual projects to provide both authority and responsibility for the project. - Carry out a comprehensive review of the way in which it monitors and controls major projects, making fundamental changes where appropriate.	✓		Fully implemented
2.3.2	- For future railway enhancement projects a Project Board should be established to provide strategic direction. The Project Board might comprise appropriate	✓		Fully implemented

	Government officials as board members, supported by external non-executive members from specialist backgrounds who could bring experience of best practice from the wider industry so as to provide strategic advice.			
2.3.3	- Review how the Government organises itself for the management of its interests in the railway project. Establish a single point of responsibility within the Government for administering its agreement with MTRCL, especially in overseeing and managing internal consultations. Consider whether rail projects should remain within the portfolio of Director of Highways or a new distinct Director of Rail Development should be established.	✓		Fully implemented
2.3.4	- Consider whether the Government should continue to adopt the concession model or revert to ownership model, or the “Special Purpose Vehicle” approach with a dedicated Board and delivery organisation with reference to the experience of major rail infrastructure projects in the United Kingdom.	✓		Fully implemented
2.4	<u>Facilitating the work of the Project Supervision Committee (“PSC”)</u>			
2.4.1	- Review the attendance at the PSC to ensure that it is operating as a high-level committee focusing on strategic and performance issues as intended.	✓		Fully implemented
2.4.2	- Ensure that the PSC is provided with reliable performance data which will allow substantive issues relating to time, cost and quality to be identified and acted upon.	✓		Fully implemented
2.4.3	- Report progress of as-built drawing production as part of the monthly progress to PSC.	✓		Fully implemented
2.5	<u>Reviewing resource monitoring processes</u> - Review MTRCL’s processes for monitoring resource levels throughout the organisation and identifying potential pressure points.		✓	Fully implemented

2.6	<p><u>Reviewing investigation procedures</u></p> <ul style="list-style-type: none"> - Review MTRCL's procedures for reviewing problems that have occurred and for learning lessons to avoid them being repeated, and automatically requiring for an investigation to the causes of the problems in case major remedial works are needed. 		✓	Satisfactory progress towards implementation (fully implemented when the new PIMS is substantially completed by the end of Q2 2021)
3. Promoting collaborative culture				
3.1	<u>Fostering integrated working arrangement</u>			
3.1.1	<ul style="list-style-type: none"> - Consider options for working arrangement in which Government staff could be integrated within MTRCL teams on a regular basis to help ensure a common understanding of requirements, improve communications, undertake joint forward planning and to resolve issues more efficiently. - Review options for more integrated and co-located working between the parties to achieve greater transparency of issues, better forward planning and joint risk management. 		✓	Fully implemented
3.1.2	<ul style="list-style-type: none"> - Create more collaborative culture between the Government, MTRCL and contractors with the objective of achieving more successful project outcomes, e.g. closer working relationship between the Buildings Department ("BD") and MTRCL and its designers and contractors to facilitate dialogue in all engineering matters. 		✓	Fully implemented
3.1.3	<ul style="list-style-type: none"> - Review the way that liaison and communications have worked between Highways Department Railway Development Office ("RDO"), BD and MTRCL, e.g. BD to act more as a proactive project participant, offering its advice and expertise. Explore ways of improving communications and working relationships, such as more frequent site visits at a working level by members of RDO and BD. 		✓	Fully implemented

3.2.	<u>Introducing New Engineering Contract (“NEC”)</u> - Introduce standard use of an industry standard collaborative form of contract such as NEC4.	✓	✓	Fully implemented
3.3	<u>Adopting Building Information Modelling (“BIM”) as a collaboration tool</u> - Develop, implement and promote the use of BIM as a collaboration tool , first at a basic, “collaborative” level so as to gain experience before building up to more sophisticated, multi-dimensional versions.	✓	✓	Fully implemented
3.4	<u>MTRCL’s internal organisation</u>			
3.4.1	- Consider ways of inducing closer working between different groups within the project organisation to avoid the risk of silo-working in which information and knowledge is not shared. Consider the effectiveness of existing communication arrangements between the teams and throughout the organisation. Review information databases and systems to ensure a single accessible source of true position accessible as appropriate to all people. - Provide clarification and guidance to project team members in relation to reporting and communication requirements within the MTRCL.		✓	Satisfactory progress towards implementation (fully implemented when the new Project Management Procedure document is launched and the new PIMS is substantially completed by the end of Q2 2021)
3.4.2	- Review and clarify MTRCL roles and responsibilities in relation to the provisions and requirements of the Conditions of Contract. In particular, ensure that the position of Engineer to the Contract is understood and that roles and responsibilities respect the need for the Engineer to act impartially in the administration of the contract. The role of the Engineer needs to be integrated and compatible with the roles of others in MTRCL who have responsibilities for delivering obligations under the Entrustment Agreements (“EAs”) construction contracts, perhaps by allocating and distinguishing its roles as		✓	Fully implemented

	the “Engineer” (and his representatives) from its separate roles as the “Project Manager” in delivering Entrustment Activities.			
3.4.3	- Review arrangements for managing relationships with stakeholders to ensure that there is clarity on responsibilities and clear lines of communications particularly with Government Departments, and set out such arrangement in a Stakeholder Management Plan which is accessible by all involved in the project delivery.		✓	Fully implemented
3.4.4	- Review MTRCL’s systems and procedures for escalating problems and disputes up through the organisation to senior management, who should encourage the reporting of issues in case of doubt.		✓	Fully implemented
4. Revised arrangements for contractual and commercial issues				
4.1	<u>Devising and developing a conflict of interest policy</u> - Developing a conflict of interest policy appropriate and applicable to projects of this nature, the administration of which may be assigned to the Project Coordination Meeting or other committees as appropriate.		✓	Fully implemented
4.2	<u>Commercial settlements</u> - Including subcontracts within the provisions for commercial settlements set out in the Entrustment Agreement to provide the Government with greater transparency of commercial settlements which have a significant impact on the settlement of the final contract value and greater control on the settlement of the contract final account.		✓	Fully implemented
4.3	<u>Subcontracting arrangements and commercial settlements</u>			
4.3.1	- Review the procedures for the approval of sub-contracts and any subsequent revisions which change the conditions and/or prices.		✓	Satisfactory progress towards implementation (fully implemented when the review of suite of

				contract documents is completed during the course of 2021)
4.3.2	- Review the arrangements for the commercial settlements of sub-contracts to include a stage for MTRCL to verify and accept that proposed settlements are in line with the approved sub-contract terms and conditions.		✓	Satisfactory progress towards implementation (fully implemented when the review of suite of contract documents is completed during the course of 2021)
4.3.3	- Review and rationalise the provisions for disallowable costs and consider incorporating works not undertaken in accordance with approved plans and procedures as a disallowable costs.		✓	Satisfactory progress towards implementation (fully implemented when the review of suite of contract documents is completed during the course of 2021)

5. Rationalisation and clarification of rules and requirements

5.1	<u>Rationalising and clarifying rules and requirements</u>			
5.1.1	- In relation to the Buildings Ordinance and consultation, pull together the provisions into a clearer and more precise description of the requirements and responsibilities. - Review consultation procedures in relation to design revisions and clarify arrangements for fast-tracking the consultation process for minor design changes.	✓		Fully implemented
5.1.2	- Review the 2009 Code of Practice for Site Supervision (“CoP”) to give clarity on the definition of supervision, record keeping requirements and non-conformance reporting. Set out in CoP requirements of	✓		Fully implemented

	the communication of the supervision plan and associated obligations, which should provide an adequate role for the designer to ensure delivery of design intent in the construction.			
5.1.3	- Review and confirm requirements for as-built records particularly in relation to the need for hard copies of Request for Inspection and Survey Checks (“RISC”) forms, taking into account the development of the increasing use of technology to create drawings and records and should ensure that requirements can be met as efficiently as possible.	✓		Fully implemented
5.2	<u>Clarifying design submission and consultation procedures</u>			
5.2.1	- Review the wording of the Particular Specification in relation to alternative works design proposals to ensure that the process and terminology is aligned with the contract conditions.		✓	Satisfactory progress towards implementation (fully implemented when the ongoing review of the guidance for drafting Particular Specifications as part of the review of suite of contract documents is completed during the course of 2021)
5.2.2	- Ensure that the construction method statements are in place based on the latest approved designs before construction commences.		✓	Satisfactory progress towards implementation (fully implemented when the new PIMS is substantially completed by the end of Q2 2021)

5.2.3	- Review the liaison arrangements between the Contractor's design team, the Building Authority and MTRCL's design and construction management teams to ensure common understanding of submission requirements and awareness of design issues and the forward programme of potential submissions.		✓	Satisfactory progress towards implementation (fully implemented when the new PIMS is substantially completed by the end of Q2 2021)
5.3	<u>Rationalising and clarifying supervision requirements</u>			
5.3.1	- For future rail infrastructure projects, require site presence of the designer to assist in ensuring implementation of design intent in the works.		✓	Fully implemented
5.3.2	- Review documents which set out supervision requirements and guidance to rationalise the documents to a more manageable and readable number, ideally with a view to producing an all-inclusive and bilingual "Supervision Manual" accessible to all involved in supervision and inspection procedures.		✓	Satisfactory progress towards implementation (fully implemented when the new PIMS is substantially completed by the end of Q2 2021)
5.3.3	- Develop a clear definition of supervision for the purpose of contractual obligations and adopt a consistent approach to terminology throughout the documentation, with requirements being specific about the information that needs to be recorded and certified.		✓	Satisfactory progress towards implementation (fully implemented when the review of suite of contract documents is completed during the course of 2021, subject to the fulfilment of clear and consistent definition of supervision requirements)

5.3.4	- Make the frequency of supervision and inspections flexible and reactive to the compliance and performance of work with requirements, with less frequent supervision supported by self-certification and audits upon demonstration of consistently high-quality work.		✓	Fully implemented
5.3.5	- Review the requirements for formally defined hold points in relation to the contract provisions for not covering-up work without inspection and clarify whether inspection certificates apply to both hold points and pre-covering up inspections.		✓	Fully implemented
5.3.6	- Review options for the use of the latest technological applications and tools to support the efficient effective recording of site records.		✓	Fully implemented
5.3.7	- Ensure there are procedures in place to record who are undertaking supervision duties on a daily basis and that supervisors have the required level of competence.		✓	Satisfactory progress towards implementation (fully implemented when the new PIMS is substantially completed by the end of Q2 2021)
5.3.8	- Ensure that records are kept to support the possible application of the contractual disallowable cost provisions.		✓	Fully implemented
5.4	<p><u>Reviewing site entry/exit systems and records</u></p> <p>- Review the existing entry/exit site staff recording system in relation to:</p> <ul style="list-style-type: none"> • knowing who is on site; • supporting the payment of people under the commercial model; • knowing who undertook work inspections and who certified work; and • helping to confirm that the required level of supervision and the ratio of supervisors to workers. 		✓	Fully implemented

5.5	<u>Reviewing non-conformance reporting</u>			
5.5.1	- Review current guidance on non-conformance reports (“NCRs”) (e.g. requirements in PIMS procedural document PIMS/PN/11-4/A6) to ensure clarity and consistency on when NCRs should be issued and with BD’s CoP.		✓	Fully implemented
5.5.2	- Encourage “near-miss” non-conformance reporting to drive continuous improvement.		✓	Fully implemented
5.5.3	- Maintain a single NCR database across all parties which is accessible to all supervisors and inspectors to allow recurrent issues to be readily identified.		✓	Fully implemented
5.5.4	- Review and enhance the NCR close-out procedures including effective monitoring arrangements. Make sure that responsibility for ensuring non-compliances with procedures being promptly addressed is clearly seen to lie with the Engineer and that appropriate action is taken in accordance with the provisions of the contract.		✓	Fully implemented
5.5.5	- Distinguish reporting procedures for non-conforming works from that for non-conforming processes in contract specifications.		✓	Fully implemented
5.6	<u>Reviewing Project Management Plans (“PMPs”)</u>			
5.6.1	- Make PMPs more comprehensive and relevant to the project by translating generic guidance into project specific requirements while minimising cross-reference to other documents.		✓	Satisfactory progress towards implementation (fully implemented when the new PIMS is substantially completed by the end of Q2 2021)
5.6.2	- Consider including an introductory section in PMPs setting out MTRCL’s corporate policies and the project strategic objectives to help steer the development of the project.		✓	Satisfactory progress towards implementation (fully implemented when the new PIMS is

				substantially completed by the end of Q2 2021)
5.6.3	- Include specific details about which PIMS manuals are applicable to a project and job roles.		✓	Satisfactory progress towards implementation (fully implemented when the new PIMS is substantially completed by the end of Q2 2021)
5.6.4	- Review requirements in relation to the content and use of PMPs and consider including/ensure that they cover: <ul style="list-style-type: none"> (a) proposals for partnering arrangements and initiatives; (b) checklists for sub-contract approval procedures; (c) commercial management procedures; (d) resources planning; (e) training and development plans for project purposes; (f) project communication strategies; (g) interface risk management; and (h) leadership roles in establishing appropriate culture and behaviours. 		✓	Satisfactory progress towards implementation (fully implemented when the new PIMS is substantially completed by the end of Q2 2021)
5.7	<u>Reviewing PIMS</u>			
5.7.1	- Review and update PIMS procedures and manuals, including: <ul style="list-style-type: none"> (a) requirements for site record keeping, supported by technology solutions and devices; (b) arrangements for communicating updates and revisions to staff; (c) use of photographs as a record of works inspections; and (d) development of new manual on project communication strategies setting out roles, responsibilities, systems and reporting requirements. 		✓	Satisfactory progress towards implementation (fully implemented when the new PIMS is substantially completed by the end of Q2 2021)

	- Ensure alignment of project management guidance and procedures with contractual procedures.			
5.7.2	- Highlight in the manuals the aspects of the guidance which need to be assessed for the specific circumstances of a project and translated into project-specific guidance in the PMP, and the aspects of PIMS manuals which need to be converted from generic advice into project specific proposals.		✓	Satisfactory progress towards implementation (fully implemented when the new PIMS is substantially completed by the end of Q2 2021)
5.7.3	- Review training (with the contractor where appropriate) on PIMS and contract procedures, including ongoing refresher training and the coverage of any updates to the procedures. Training should cover the procedures to be followed and provide an understanding of the importance of applying quality procedure. - Develop training modules on PIMS procedures in alignment with the requirements of individual roles by focusing training for different roles on the specific PIMS procedures which are of particular relevance to the role.		✓	Satisfactory progress towards implementation (fully implemented when the new PIMS is substantially completed by the end of Q2 2021)
5.8	<u>As-built drawings requirements and production</u>			
5.8.1	- Review the current documents setting out requirements for as-built drawings to ensure consistency and clarity on roles, responsibilities and procedures, and pull them together in the PMP.		✓	Satisfactory progress towards implementation (fully implemented when the new PIMS is substantially completed by the end of Q2 2021)

5.8.2	- Clarify and maintain site records to support the delivery of the contractual requirements for the prompt recording of dimensions and details of as-built structures.		✓	Satisfactory progress towards implementation (fully implemented when the new PIMS is substantially completed by the end of Q2 2021)
5.8.3	- Introduce rigorous monitoring of as-built drawing production.		✓	Satisfactory progress towards implementation (fully implemented when the new PIMS is substantially completed by the end of Q2 2021)
5.9	<u>Clarifying method statement procedures</u> - Review and clarify the procedures for the submission and acceptance of working method statements.		✓	Fully implemented
5.10	<u>RISC Form and Inspection Procedures</u>			
5.10.1	- Introduce a further hold point for the contractor and MTRCL to jointly confirm readiness to commence reinforcement installation so as to ensure that all couplers are present and properly exposed and that coupler threads are not damaged.		✓	Fully implemented

5.10.2	<ul style="list-style-type: none"> - Provide clarity in contract specifications as to the status of RISC forms (in paper and/or digital form), and as to their retention and storage requirements. - Ensure that roles and responsibilities in relation to the RISC procedures and the recording of results are clear and communicated to all those involved in the procedures on a project specific basis. - Consider pulling the requirements relating to RISC form procedures and inspections into a single source covering requirements on individual projects. - Review and clarify procedures in relation to inspections which are not formal hold points, ideally using the same technology and systems as formal procedures. 		✓	Satisfactory progress towards implementation (fully implemented when the review of suite of contract documents is completed during the course of 2021) ³
5.10.3	<ul style="list-style-type: none"> - Introduce new technology-based RISC form procedures and ensure that site staff have access to the latest working drawings to support more reliable surveillance and inspections of the works. 		✓	Fully implemented
5.10.4	<ul style="list-style-type: none"> - Consider ways of improving the forward planning of formal inspections and inform forward programmes by the notice periods provided by the submission of Inspection and Test Plans to support resource planning and ensure that inspections are being requested and completed as expected. 		✓	Fully implemented
5.11	<p><u>BOSA mechanical couplers</u></p> <ul style="list-style-type: none"> - Devise and prescribe a clearer and more foolproof means of positively indicating that the coupler assembly has been correctly installed in a manner that will achieve its specified structural properties, which should not be dependent on merely counting the number of exposed threads. 	<i>BOSA Technology (Hong Kong) Limited</i>		Fully implemented
5.12	<u>Interface Management</u>			
5.12.1	<ul style="list-style-type: none"> - Review interface management requirements, ensure that interface risks are generally treated as potential key risks 		✓	Satisfactory progress towards implementation (fully

³ The full implementation of Recommendation 5.10.2 is also subject to the new PIMS, which will be substantially completed by the end of Q2 2021.

	<p>and consider defining a joint interface inspection as a hold point.</p> <ul style="list-style-type: none"> - Ensure that method statements are required from contractors for the execution of works at interfaces. 			implemented when the new PIMS is substantially completed by the end of Q2 2021)
5.12.2	<ul style="list-style-type: none"> - Ensure that actions are clearly allocated and communicated to the responsible individuals in interface management meetings. - Consider holding interface workshops attended by relevant site team members to ensure that works are adequately planned and risks are identified and mitigated. - Consider the appointment of a project interface manager in the Engineer's team who has responsibility for ensuring that interface planning and communications are delivered as required. 		✓	Satisfactory progress towards implementation (fully implemented when the new PIMS is substantially completed by the end of Q2 2021)
5.13	<u>Steel testing</u>			
5.13.1	<ul style="list-style-type: none"> - Develop procedures for ensuring that the Engineer's team is notified by the Contractor that a delivery requiring testing has arrived on site and ensure requirements are included in contracts to achieve effective segregation on site of tested and untested steel. 		✓	Satisfactory progress towards implementation (fully implemented when the new PIMS is substantially completed by the end of Q2 2021)
5.13.2	<ul style="list-style-type: none"> - Review its requirements for the testing of steel that has been delivered to sites from quality accredited sources in line with the long-term objectives set out in Construction Standard CS2:1995. 	✓		Satisfactory progress towards implementation

6. Review of monitoring and verification (“M&V”) arrangements				
6.1	<p><u>Extending the role of the M&V Consultant</u></p> <ul style="list-style-type: none"> - Consider extending the role of the M&V Consultant to provide a wider “eyes and ears” role to help protect the Government’s\ interests in the delivery of the project and to provide high-level monitoring of the project quality assurance systems. Develop the M&V Consultant into the Government’s Project Representative that works more closely within the MTRCL organisation to monitor performance and to identify emerging issues. - Consider including construction quality and checks on construction records in the M&V role as failures in these areas can impact adversely on cost, programme and safety. 	✓		Fully implemented
6.2	<u>Reviewing the engagement arrangements of the M&V Consultant</u>			
6.2.1	<ul style="list-style-type: none"> - Review the lump sum contractual arrangement used to employ the M&V Consultant to ensure that they do not act as a disincentive to the delivery of comprehensive services and consider options which may provide a more effective incentive to be proactive in the execution of its duties (e.g. provide a fair return for a good service). - Consider options of recovering M&V Consultant’s costs from the defaulting party for additional audits as a result of poor performance by the contracting parties. 	✓		Fully implemented
6.2.2	<ul style="list-style-type: none"> - Review the procedures for satisfying itself that the M&V consultant has sufficient resource capacity and flexibility of resource to deliver required services. - Ensure that the M&V Consultant is given access to the necessary level of resources if the level of monitoring has to be increased due to concerns about poor performance. - Consider whether there could be benefit in appointing more than one M&V consultant 	✓		Fully implemented

	on major complex contracts to provide more flexibility and resilience of resource in delivering requirements.			
6.3	<p><u>Clarifying requirements for the M&V Consultant</u></p> <ul style="list-style-type: none"> - Clarify in M&V Consultants' briefs requirements in relation to site audits and surprise checks. - Ensure that M&V consultants treat interface risks as potential key risks as part of their risk-based approach to the identification of review priorities. 	✓		Fully implemented
6.4	<p><u>Ensuring prompt notification to M&V consultants</u></p> <ul style="list-style-type: none"> - Consider ways of ensuring that M&V consultants are advised promptly of construction problems and defective work which may require remedial works and could have significant cost and programme implications. 	✓		Fully implemented