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9 February 2017

Fax No. : 2978 7569
Legislative Council Secretariat
Legislative Council Complex
1 Legislative Council Road
Central, Hong Kong
(Attn: Ms Sophie LAU)

Dear Ms LAU,

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

Meeting on 9 December 2016

Supplementary Information

At the meeting of Subcommittee on Matters Relating to Railways on 9 December 2016, some Members requested the Government/MTRCL to provide supplementary information regarding progress update of the construction works of the South Island Line (East), and the funding applications for 56TR – South Island Line (East) – essential public infrastructure works and 63TR – Shatin to Central Link – Advance Railways Works. The supplementary information is provided at **enclosure** for the Members' perusal.

Yours sincerely,

A handwritten signature in black ink, appearing to be 'S. H. LEUNG'.

(S. H. LEUNG)
for Secretary for Transport and Housing

C.C.

Highways Department (Attn: Mr. Jonathan LEUNG) (Fax: 2187 2971)
MTR Corporation Limited (Attn: Ms. Prudence CHAN) (Fax: 2795 9991)

Encl.

Progress Update of the construction works of the South Island Line (East), 56TR – South Island Line (East) – essential public infrastructure works, and 63TR – Shatin to Central Link – Advance Railways Works

Supplementary Information

(a) The number of visitors departing the Ocean Park at the peak and non-peak days when the Ocean Park is closed

The Ocean Park advised that during their last fiscal year, i.e. July 2015 to June 2016, there were 75 days that the Ocean Park closed at 6 pm as the expected flow of visitors was relatively low. For the other days, as the expected or actual flow of visitors was relatively high, the Park was arranged to close at 7pm or later. On the above non-peak days when the Park closed at 6pm, an average of 32% of the visitors departed the Ocean Park between 5pm and 6pm. Half of them were tour group visitors who seldom used public transport services for departure. For the other days, because of the longer opening hours of the Park, the visitors departing the Park were in general more spread. Hence, the percentage of visitors departing the Park was lower when compared with the same duration of the non-peak days.

Following the commissioning of the South Island Line (East) (“SIL(E)”) with Ocean Park Station, at the end of last year, it is anticipated that there will be more visitors visiting the Ocean Park and they will stay longer. In view of the above considerations, the Ocean Park estimated that on the coming non-peak days, about 2 200 visitors would leave the Park between 5pm and 6pm using different modes of public transport. Considering the maximum hourly capacity of SIL(E) per direction is about 20 000, we believe that the visitors departing the Ocean Park would not cause significant impact on the operations of the Ocean Park and Admiralty Stations.

The MTR Corporation Limited (“MTRCL”) will continue to liaise with the Ocean Park to ensure the smooth operations of the SIL(E). For example, when the Admiralty Station is crowded, both parties will liaise immediately. The Park will extend the opening hours according to the situation and advise the visitors to continue enjoying their stay in the Park, with a view to minimising the impact on Admiralty Station.

(b) The risk analysis and assessment of the Shatin to Central Link advance works and essential public infrastructure works of South Island Line (East)

The HKSAR Government has adopted the “service concession” approach to implement the SCL project. Under the “service concession” approach, the Government will fund the construction of the SCL and its associated infrastructure under the public works programme, and ultimately owns the railway. The Government and the MTRCL entered into agreements in 2011 and 2012 respectively for entrusting to the MTRCL the construction of the advance works as well as the construction, testing and commissioning of the main works of the SCL.

MTRCL is the project manager for the Advance Works of the Shatin to Central Link (“SCL”). MTRCL is responsible for formulating the risk management measures, determining the form of construction contracts signed with the contractors, and managing the contracts, etc.

As the project manager, the MTRCL should follow the Entrustment Agreement signed with the Government when implementing the advance works of SCL. MTRCL should also sign works contracts with the contractors for implementing the various works under the project.

MTRCL has to carry out risk analysis and assessment at the early stage of the project, including the identification of project risks, establishing a risk register and conducting risk assessment to determine the level of risks and formulate the corresponding

mitigation measures. MTRCL shall also carry out the design in accordance with results of the risk assessment at the design stage. In preparing the tenders of the works contracts, the risks should be suitably shared by both parties, i.e. the MTRCL as the Employer and the Contractor. Contingencies would be estimated based on the level of risks when preparing the project estimate.

Under the Contract, any actual cost savings or overruns are shared between the MTRCL as the Employer and the Contractor according to the mechanism, including the risk of price adjustment and increase in construction costs. In addition, the Contractor of the expansion works at Admiralty Station is liable for any liquidated damages, rectifications of defects after the substantial completion of the Works, Contractors' negligence etc. Some of the risks such as unforeseen ground condition and change in design shall be borne by the MTRCL as the Employer.

The Highways Department ("HyD") and the Monitoring and Verification ("M&V") Consultant employed by HyD would verify whether the MTRCL has followed the requirements of the Entrustment Agreement to conduct the risk assessment according to the management systems and procedures of MTRCL.

One of the main reasons for cost increase in the Advance Railway Works of the SCL is due to unfavourable ground condition. During the design and tender preparation stage, MTRCL has 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 ("GBR") was developed and incorporated into the tender as the referenced geotechnical baseline for both parties in the tendering process. In case the actual ground condition deviates from the baseline condition, the GBR can be used as a reference for assessing claims.

If the GBR is not incorporated in the tender, the risks of adverse ground condition would be allocated to the tenderer (who will be the Contractor) and the tender price would likely be increased in order to

cover the high risks and hence a higher cost would be incurred. When executing the contract, even if the actual ground condition is better than expected, the Employer would still need to bare the higher tender prices. Thus, the establishment of the GBR can provide the tenderers with a clear understanding of the geological risks involved at the tender stage, and prevent tenderers from translating the higher risks on ground condition into the cost estimate and reflecting in the tender prices. This in turn can avoid the MTRCL as the Employer from receiving unnecessarily high tender prices.

Regarding the Essential Public Infrastructure Works (“EPIW”) of SIL(E), MTRCL is also the project manager as in the case of the Advance Works of SCL. South Island Line (East) EPIW adopted the same approach in dealing with the geological risks. That is, if the actual underground conditions of the site are found to be deviated from the GBR and additional cost is incurred to the contractor, the MTRCL as the Employer would be required to bear the incurred additional cost.

For the above additional cost borne by the MTRCL, the MTRCL would notify the Government according to the procedures set out in the Entrustment Agreement. After scrutiny of the contents by HyD to ascertain the sufficiency in substantiation, the Government has to pay the costs according to the Entrustment Agreement.

(c) The responsibility of the MTRCL regarding the monitoring of the progress of the works and cost control

According to the Entrustment Agreement of the Advance Works of SCL, the MTRCL is responsible for the overall management of the SCL project. It shall use its best endeavours to complete, or procure the completion of, the Entrustment Activities in accordance with the Entrustment Programme; and to minimise any delay or other effect which any modifications may have on the Entrustment Programme. In this connection, the MTRCL shall act in accordance with its management systems and procedures. Moreover, the Government shall be entitled to appoint an appropriate consultant to verify MTRCL’s compliance with its obligations under the Entrustment

Agreement. At any time the MTRCL is in material or persistent breach (or the Government, acting reasonably, suspects that the MTRCL is in material or persistent breach) of any of MTRCL's material obligations under the Entrustment Agreement, the Government shall be entitled to verify MTRCL's compliance with MTRCL's obligations under the Entrustment Agreement.

As for the expenditures of the works, the Government and the MTRCL conducted risk assessments 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 encounter 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 MTRCL would examine the reasonableness of such claims and assess the amount concerned based on the contract terms, justifications submitted by the contractors, the relevant records, etc. In assessing such claims, the MTRCL has to seek comments from the HyD through its Project Control Group. In this connection, the HyD will critically examine each claim assessment report involving public funds, offer professional comments in respect of the analysis of claim assessment, and review the justifications, principles and culpabilities of all the claims, with a view to safeguarding the interest of the Government as the owner of the SCL project and ensuring the proper use of public funds.

Similar provisions are included in the entrustment agreement for EPIW of the SIL(E).

(d) The design cost and on-cost payable to the MTRCL in the additional funding

Regarding Item 63TR, the breakdown of the proposed cost increase has been included in Enclosure 4 of the consultation paper

(CB(4)243/16-17(05)), and do not involve the cost of design and on-cost payable to MTRCL.

Regarding Item 56TR, the on-cost payable to MTRCL for undertaking the design and construction supervision of EPIW stated in the funding application in 2011 was \$107.6 million. With the increased construction cost and extended construction period of the EPIW, an additional design and management cost of \$29.1 million for the whole project is required. An on-cost at 16.5% of the project base cost is payable to MTRCL for undertaking the design and construction supervision of the EPIW. The 16.5% includes Design (1.2%), Contract Administration (11.2%), Administrative Overheads (3.5%) and Insurance (0.6%).

(e) Measures for close monitoring of the works by the MTRCL

Regarding the SCL project, MTRCL, as the entrustee of, is responsible for the overall management of the SCL project. The Government has been following the 3-tier monitoring mechanism to closely monitor the work of the MTRCL, which includes a Project Supervision Committee (“PSC”) led by the Director of Highways. The PSC holds monthly meetings to review the progress of the project and monitor the procurement activities, post-tender cost control and resolution of contractual claims. The MTRCL has to submit monthly progress reports to the HyD to report the latest progress and financial position of the SCL project.

Moreover, an officer at Assistant Director level of the HyD holds monthly Project Coordination Meetings with the General Managers and Project Managers of the MTRCL to monitor different aspects of the implementation of the SCL project, including the timely completion of land-related matters, the handling of issues in relation to the design, construction and environmental fronts that may have potential impact on the progress and programme of the SCL project, as well as the handling of interfacing issues with other projects. Meanwhile, two officers at Chief Engineer level hold monthly Project Progress Meetings with the site supervision staff of the MTRCL on major civil and E&M works. In case of delays, the MTRCL would

report delay recovery measures at such meetings. The HyD has also employed a M&V consultant to assist in the monitoring work and undertake regular audits. The M&V consultant will review the works progress and advise the HyD of any potential risk of delay. It will also offer comment to HyD on the appropriateness of MTRCL's proposed delay recovery measures.

The HyD has taken into account the recommendations of the independent expert group appointed by the Government on the Hong Kong section of the Guangzhou-Shenzhen-Hong Kong Express Rail Link and the integration of past experience in arranging and implementing the following optimized monitoring:

- (i) To increase the manpower of the SCL project team of the Railway Development Office of the HyD to enhance the monitoring work;
- (ii) To submit a monthly progress report to the Transport and Housing Bureau ("THB") on the SCL project and to adopt a "traffic signal" system to facilitate the THB to understand the status of the project;
- (iii) To liaise more closely with MTRCL's project management team and to request the MTRCL to provide more detailed information;
- (iv) To arrange for the M&V consultant appointed by HyD to attend meetings of PSC;
- (v) To establish a working group comprising the HyD, the M&V consultant and the MTRCL with members from the dedicated units to regularly review the schedule and progress of the SCL project, including the various aspects and levels of the project.

Regarding the SIL(E) EPIW project, according to the entrustment agreement, the MTRCL shall use its best endeavours to complete, or procure the completion of, the entrustment activities in accordance with the entrustment agreement. The Government has been closely monitoring the works of the MTRCL, including requesting the submission of monthly progress reports, plans and safety reports. An officer of the HyD at the level of Assistant Director has been attending the monthly liaison meeting with the General Manager or Project Manager, in order to monitoring the progress of the works and

assisting the MTRCL to resolve problems encountered during construction of the works, such that the works could be implemented on schedule. In addition to the liaison meeting, the HyD has adopted the below measures in monitoring the works of the EPIW:

- (i) requesting the MTRCL to give detailed reports on critical construction matters; and
- (ii) closely liaising with the construction team of the MTRCL by monthly progress reports and meetings as well as regular site inspections, and requesting more detailed information from the MTRCL as necessary.

In financial aspect, the MTRCL has to submit reports monthly, in order to report the financial situation of the EPIW and spell out the revised estimate and claims of the works under the project, for scrutiny by the HyD.

(f) The reasons for the major claims causing cost overrun of the advance works of the SCL

- (i) **Unfavourable Ground Condition**
During the excavation of the expanded Admiralty Station and the shaft of the Ventilation Building, the adverse ground conditions had affected the progress of the works at site. The Contractor subsequently filed claims for unforeseen unfavorable ground conditions.
- (ii) **Change in Design**
A number of technical reviews on the detailed design of the Island Line underpinning works had been carried out after awarding the Contract. MTRCL had proposed the revised scheme for the underpinning works. The Contractor subsequently lodged claims for the revised design for the underpinning works.

(g) The Project Management Cost payable to the MTRCL for

construction of the Hong Kong Section of the Guangzhou-Shenzhen-Hong Kong Express Rail Link

According to the entrustment agreement signed between the Government and the MTRCL, the Project Management Cost payable to MTRCL for the construction of the Hong Kong section of the Guangzhou-Shenzhen-Hong Kong Express Rail Link (“XRL”) is \$6,001 million and the cost of entrustment works is \$84.42 billion.

As the size and complexity of each railway project is different, the required design costs and human resources for project management work are also different. Regarding the SCL project, the whole railway line is 17 kilometers long and has 10 stations, of which six are interchange stations. Therefore, there is a need to modify and connect a number of existing railway routes under operation and the works are complicated. Furthermore, most of the works are carried out in urban areas with a high building density and relatively old buildings, which imposes restrictions to construction and increases the difficulties of the works. The works of SCL has also affected a number of major busy roads, such as the Chatham Road North, Ma Tau Wai Road, Lung Cheung Road, the roads adjacent to the portal of Cross Harbour Tunnel at Island side, Convention Avenue, Expo Drive East, Fleming Road, Victoria Park Road, etc. and required a number of large-scale traffic diversions. In addition, before the construction of the works of SCL, a number of reprovisioning works have to be carried out, including the Central Mail Centre, Wan Chai Swimming Pool and Harbour Road Sports Centre, New Territories South Animal Management Centre, Shatin Plant Quarantine Station and Wan Chai North Public Transport Interchange, etc. Thus, the construction sequence is complex, and many coordination works are required. As a result, the scale of the project management and supervision work, and the human resources required by the SCL project are different from those of the XRL project. The Project Management Cost of these two projects cannot be compared directly.