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19 February 2016

Mr. Raymond CHOW
Legislative Council Complex
1 Legislative Council Road
Central, Hong Kong

Dear Mr. CHOW,

**Hong Kong Section of
Guangzhou-Shenzhen-Hong Kong Express Rail Link (XRL)**

**Matters Relating to the Award of Signalling System Contracts to
Beijing HollySys Co., Ltd. by MTR Corporation Limited (MTRCL)**

I refer to the letter from Hon. Albert CHAN to the Chairman of Public Works Subcommittee dated 1 February 2016, which was forwarded to us on the same day.

**Procurement Procedure of the XRL Contracts and the Role of
Government**

The Government and the MTRCL entered into an Entrustment

Agreement in January 2010 for entrusting the construction, testing and trial operation of the XRL. According to the Entrustment Agreement (“EA”), MTRCL would manage the XRL project in accordance with their management system and procedures, including procurement of the XRL contracts according to their relevant procedures which cover tender invitation, tender assessment, detailed technical assessment and financial assessment. The procurement procedures also have to comply with requirements of the Agreement of Government Procurement of the World Trade Organization. While the Highways Department (“HyD”) monitors the procurement procedures for compliance of the relevant requirements, HyD does not participate in the tender assessment.

On 23 July 2011, two high speed trains collided in Wenzhou (“Wenzhou Incident”). The State Council approved the establishment of the Yongtaiwen Special Major Incident Investigation Unit (“Investigation Unit”) on 25 July 2011 to look into the Incident. The Investigation Unit released the Wenzhou Incident Investigation Report on 25 December 2011. As MTRCL was procuring the XRL contracts during such period, after the Investigation Report was released, the MTRCL met with Fire Services Department, Electrical and Mechanical Services Department (EMSD), and HyD to brief these Departments on the Investigation Report. According to the Wenzhou Incident Investigation Report in February and March 2012, MTRCL and HyD learnt that the major causes of the Wenzhou Incident were (i) excessive lightning; (ii) design fault in trackside signalling equipment (i.e. the Model LKD2-T1 Train Control Centre developed by the China Railway Signal & Communications Corporation); and (iii) lack of safety awareness and short comings in operation management procedures.

After learning the causes of the Wenzhou Incident, MTRCL and HyD opined that the likelihood of similar incident happening in the XRL would be very remote. It is because (i) the XRL is constructed underground with lightning protection equipment; hence the chance of being affected by lightning is very remote; (ii) the XRL is equipped with the Model LKD2-HS Train Control Centre developed by the Beijing HollySys Co., Ltd., which is a different model and manufacturer from the Train Control Centre related to the Wenzhou Incident. In addition, the Train Control Centre is accredited to Safety Integrity Level (SIL) 4,

which is the highest level in SIL; and (iii) MTRCL's train dispatch operation and management has excellent track record no matter during normal or emergency situation.

During a meeting between HyD and MTRCL on the XRL signalling system and rolling stock on 17 August 2011, HyD suggested that the MTRCL engaged an external consultant to provide input in the tender assessment of the relevant systems, in order to strengthen the technical assessment on the signalling systems. On 10 October 2011, the MTRCL appointed SYSTRA Company, a subsidiary of the French National Railway Company (SNCF), as a third party independent consultant to assess the (signalling systems and rolling stock) tenders for compliance to the technical requirements. SYSTRA Company is an international engineering group based in France and specialised in railway and public transport.

The aforementioned Wenzhou Incident Investigation Report did not mention that the Beijing HollySys Co., Ltd was related to the Wenzhou Incident, neither did it mention any abnormality in the trainborne Automatic Train Protection System.

In consultation with the MTRCL, our reply to various parts of Hon. Albert Chan's enquiries is as follow –

The MTRCL awarded three XRL contracts to the Beijing HollySys Co., Ltd. These contracts included "Main Control System" (Contract No. 853) awarded on 8 November 2011 and "Signalling System – Trackside Equipment" (Contract No. 841A) and "Signalling System – Trainborne Equipment" (Contract No. 841B), both awarded on 7 March 2012.

As mentioned in the MTRCL's press release on 2 February 2016, the XRL "Main Control System" is an integrated monitoring system for building services equipment, electricity supply, tunnel ventilation and train operation display, etc. in order to facilitate the operational personnel to have an overall view of the facilities and train operation status at the WKT and tunnels for better operation efficiency. Since the tender invitation and evaluation process was completed in accordance with the

relevant procedures, the MTRCL awarded the Contract as planned on 8 November 2011 to tie in with the construction progress. “Main Control System” is neither part of the signalling system nor a safety critical system.

MTRCL undertook an open international tendering process for the procurement of the XRL “Main Control System”. MTRCL had stipulated the technical requirements in the tender document based on the XRL “Main Control System” operation requirements. During the tender evaluation process, MTRCL examined whether the valid tenders were in compliance with the technical requirements stipulated in the tender document. In addition, MTRCL had assessed whether the tenderers possessed the relevant project experiences. The location of the projects undertaken was not stipulated. Upon completing the relevant established procedures, MTRCL awarded the XRL “Main Control System” contract to the successful tenderer, Beijing HollySys Co., Ltd. According to the information provided by the MTRCL, during the international open tender process, there were a total of four overseas and Mainland tenderers for the XRL “Main Control System”. As the relevant information is commercially sensitive, it is not appropriate for the MTRCL to disclose such information.

HyD would send representatives to join the tender procurement meetings and monitor the procurement process of the XRL to check for compliance with the relevant procedural requirements. However, HyD did not participate in tender assessment. During the tender assessment process of the XRL “Signalling System – Trackside Equipment” (Contract No. 841A) and XRL “Signalling System – Trainborne Equipment” (Contract No. 841B), apart from conducting technical assessment according to established procedures, the MTRCL had appointed SYSTRA Company to perform independent technical assessment on the proposal of the received tenders. Since the two tenders on XRL signalling systems are safety critical to train operation, the MTRCL had postponed their tender assessment to March 2012, i.e. after the release of the Wenzhou Incident Investigation Report, in order to decide on awarding tenders after referring to the findings of the Wenzhou Incident Investigation Report.

Under the procurement procedures of the MTRCL, whether the tenderers are awarded other MTRCL's contract(s) is not a matter for consideration during the tender evaluation process. The MTRCL (not the Government) awarded the XRL contracts in accordance with the EA and HyD's agreement was not necessary.

SIL is divided into four levels for measuring the safety level of the systems. SIL 4 is the highest level. According to the prevailing practice in railway industry, the requirement for SIL accreditation level for signalling system is based on its criticality in safety whereas the train control equipment with train safety implication would generally requires accreditation to SIL 4. The XRL "Main Control System" is neither part of the signalling system, nor a safety critical system. It does not require accreditation to SIL 4. In contrast, the XRL "Signalling System – Trackside System" and "Signalling System – Trainborne System" are part of train control equipment for train operation safety. According to the MTRCL, the safety critical systems of the XRL "Signalling System – Trackside System" and "Signalling System – Trainborne System" supplied by the Beijing HollySys Co., Ltd has been accredited to SIL 4.

After completing the XRL project, the MTRCL will conduct a series of tests including factory acceptance tests, integrated systems tests and on site acceptance tests to ensure that all systems are in compliance with the system requirements before putting them into service. The Railways Branch of the EMSD will also monitor the on-site safety related tests to ensure that the MTRCL had taken appropriate safety measures on the XRL to ensure safe and normal operation, prior to granting approval for the XRL to enter passenger service.

Yours sincerely,



(Chris NG)

for Secretary for Transport and Housing

c.c.

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