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25 February 2016

Mr. Derek LO  
Legislative Council Complex  
1 Legislative Council Road  
Central, Hong Kong

Dear Mr. LO,

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

I refer to the letter from Hon. Tony TSE to the Chairman of the Finance Committee ("FC") of the Legislative Council ("LegCo") dated 23 February 2016, which was forwarded to us on the same day. Our replies to the enquiries are set out below.

In early 2008, HyD commissioned the Lloyd's Register Rail (Asia) Limited ("Lloyd's") consultancy to review the institutional arrangements of monitoring of XRL project to ensure that the MTRCL would implement the XRL project efficiently. Lloyd's considered that the MTRCL's project

management procedures were known to be robust and in line with industry best practice, and had been proven through the delivery of many high quality railway projects in Hong Kong and overseas. Therefore, Lloyd's recommended that the MTRCL's project management procedures should be adopted for the delivery of the XRL project, but there should be Government representation in key control processes, and the Government should be able to conduct monitoring and verification ("M&V") to protect its interests in the design and construction process of the XRL project. This M&V role would effectively be "check the checker" approach, i.e. verifying that the MTRCL was implementing its process as specified. It entailed a risk based sampling approach to verify delivery of the requirements of the project scope and authorised expenditure. Lloyd's also advised that the Government's resources should be utilised effectively to avoid repetition and micro management of the project.

On the basis of the above considerations, Lloyd's suggested establishing a dedicated division under the Railway Development Office ("RDO") of HyD for the M&V and coordination works of the XRL project. The recommendation was adopted by the Government. Pursuant to Lloyd's suggestions on the monitoring works, HyD introduced a three-level monitoring mechanism, i.e. monthly meetings of Project Supervision Committee ("PSC") chaired by Director of Highways, Project Coordination Meetings co-chaired by an Assistant Director of HyD with the General Manager of the MTRCL, and cost control meetings convened by the MTRCL and attended by HyD at Chief Engineer level. Under this mechanism, HyD, with the assistance of M&V Consultant, monitors systematically the implementation of the XRL project by the MTRCL and undertakes coordination works.

The First Report by the Independent Board Committee ("IBC") of the MTRCL published in July 2014 pointed out that the MTRCL's project team did not report the delay to the management level in a timely manner and withheld key information when reporting project progress to HyD. In the report published in January 2015 of the Independent Expert Panel chaired by Mr. Justice Hartmann appointed by the Government, it provided some suggestions for improvement on the monitoring works under the "check the checker" approach undertaken by HyD according to the Entrustment Agreement signed in 2010. In consideration of this, the dedicated division

under RDO of HyD has to enhance the monitoring on MTRCL.

Under the framework of the three-level monitoring mechanism and risk-based approach, the dedicated division of RDO of HyD has implemented the following measures to enhance the monitoring work on the progress and financial status of the XRL project since mid-2014:

(i) **Increase in number of staff in RDO**

Since April 2014, through internal deployment of staff within HyD, the number of staff in the dedicated division for the XRL project under RDO has increased from 13 to 18 at present. The newly deployed **five staff members** are specifically dedicated to monitor project cost and project programme. With the addition of these staff members, those HyD staff members in charge of cost and programme monitoring are no longer required to handle other duties of the XRL project at the same time, so that they could concentrate and focus their effort solely on the matters related to **cost and programme of the XRL project and other related critical issues**, which make the monitoring works more efficient. In addition, there are professional quantity surveyors in the M&V Consultant team responsible for closely monitoring and reporting the financial and expenditure status of the XRL project. Through this dedicated division, HyD can continue to closely monitor and expenditure and financial status of the XRL project.

Regarding the programme monitoring work, it will be addressed in details under Item (vii) below of the enhancement measures.

(ii) **Submit monthly progress reports to the Transport and Housing Bureau (“THB”) for the XRL project with the adoption of “traffic light” system to facilitate THB’s understanding of current project status**

HyD has been submitting to THB monthly progress reports of XRL project. Before July 2014, the report format which was commonly adopted by works departments, e.g. the actual percentage completion in comparison of the planned progress, was used to present the progress status of critical activities or the overall project at a particular

time. This presentation approach is targeted for professional engineering officers. However, it might be unsuitable for non-professional engineering officers in the THB to understand, especially for large and complicated projects like the XRL project. As such, HyD adopted a **“traffic light” system** to indicate that status of key indicators of the project, e.g. green represents that the progress is satisfactory; red indicates a delay which will have impact on the completion date; and other colours represent different degrees of delay with elaboration, such as Key Performance Indicators, progress of critical activities etc., and facilitate them to report to the THB and enable them to understand the overall situation more easily and directly. In case a delay occurs, the management level of THB will be able to understand the degree of delay more quickly and make early instructions.

(iii) **Request the MTRCL to submit detailed reports on critical construction activities including the production rates of critical contracts**

HyD and the M&V Consultant prioritise their M&V works based on the risks in individual contracts in different areas. HyD and its M&V Consultant update the risk assessment regularly and, having regard to such assessment, adjust the target and direction of the subsequent M&V works. In mid-2014, HyD requested the M&V consultant to **enhance the verification works on the critical contracts with high risks**. HyD also requested **the MTRCL to provide more in-depth and detailed project information**, including the actual production rates of critical construction activities, so that HyD could make timely suggestions or carry out coordination for any problems so arose. For examples, one of the critical construction activities for West Kowloon Terminus (“WKT”) – blasting and excavation of rock, commenced in mid-2014. Through risk assessment and routine site visits, HyD observed that the progress of this construction activity born a high risk. As such, HyD strengthened the monitoring in this area including the monitoring of the daily blasting and excavation volumes and, at the same time, carried out the monitoring of impacts to surrounding buildings due to blasting. After strengthening of monitoring and coordination by HyD, the progress of blasting and excavation at WKT

had improved. Besides, the construction of Steel Entrance Building of WKT, being another construction activity having a higher risk of delay, came to a critical stage in 2014. HyD took up the corresponding stringent monitoring measures, including the monitoring of the fabrication, delivery and erection of the steelwork, as well as the planning and implementation of the temporary works. Through monitoring, HyD discovered in early 2015 that the production of temporary supporting steel structure is behind schedule. Upon repeated urges, the MTRCL implemented improvement measures as to arrange with the contractor to set up two additional fabrication yards in the Mainland to expedite the fabrication of temporary supporting steel structure for the steelwork. At present, the temporary supporting steel structure of WKT has been completed thus allowing the installation of permanent steel structure in full swing.

(iv) **Monitor the achievement of milestones established by the MTRCL's IBC through the monthly progress reports and PSC meetings chaired by the Director of Highways**

We consider that using milestones to monitor project progress is one of the effective monitoring tools. In so far, as part of the monitoring process, HyD have been reviewing the status of milestones for critical construction activities of the XRL project in the Contract Review Meetings chaired by their Chief Engineer. In October 2013, HyD requested the MTRCL in the PSC meeting to establish a set of key milestones for the purpose of monitoring the completion of XRL project in 2015. Since then, HyD had repeatedly followed up with the MTRCL the setting of these milestones. However, the proposal for the milestones put forward by the MTRCL was not entirely satisfied by HyD. In mid-2014, the experts engaged by the IBC of MTRCL in their report for XRL project identified a set of **key milestones**, with a view to facilitating the MTRCL to monitor the remaining works in a more efficient and more focus manner. HyD also understood that MTRCL project management team adopted this set of milestones recommended by their experts to monitor the progress of XRL project. As such, HyD requested MTRCL to report the progress details under the respective key milestones in the monthly

progress reports and the PSC meetings, so as to enable HyD to monitor the relevant progress. If deviation from milestones is identified, HyD will immediately raise issues to the MTRCL senior management at the PSC level and request for improvement measures.

(v) **Liase more closely with the MTRCL's project team and request the MTRCL to provide more detailed information**

HyD and the M&V Consultant update their Risk Register through regular risk assessment of the XRL Project. In mid-2014, HyD identified a set of high risk and critical construction activities or that requiring HyD's coordination based on their impact on the project completion. Accordingly, HyD requested the MTRCL's project team to provide more frequent and detailed briefing sessions to enable HyD's officers to understand the details of all critical and high risk construction activities, including the implementation programme, cost-effectiveness, risks, impacts to the overall project etc. These critical construction activities include the construction of structure steel work at WKT, rock excavation at WKT using blasting and the proposal for temporary closure of Lin Cheung Road. Through the detailed briefing by the MTRCL, HyD's officers could understand and get control of these construction activities, and could provide timely assistance, e.g. to coordinate with the concerned government departments and institutions to discuss the possibility of introducing blasting process, and facilitate the early approval of the temporary traffic arrangement for the closure of Lin Cheung Road. This allowed the concerned construction activities to commence smoothly.

(vi) **Arrange the M&V Consultant to attend the PSC meetings**

In so far, HyD raised their and the M&V Consultant's concerns to the MTRCL at the PSC meetings, and requested for follow-up actions and corresponding measures. Since February 2015, HyD arranged **the M&V Consultant to attend the PSC meetings direct** under which the M&V Consultant could raise queries and follow-up actions with the MTRCL direct. The representative from the M&V Consultant attending the PSC meetings is its Project Director. Besides, in certain cases, the M&V Consultant reflected that the working level of

the MTRCL did not provide timely responses. Arranging the M&V Consultant to attend the PSC meetings could allow the M&V Consultant to raise queries and follow up actions with the MTRCL direct, thus making the communication more direct and utilising the monitoring role of the M&V Consultant.

- (vii) **Establish a working group amongst HyD, M&V Consultant and MTRCL with members from the respective specialised teams to review the programme and progress of the XRL project in details on a regular basis with all aspects and level of works covered**

The review and monitoring of the overall project programme is one of the important monitoring roles of HyD. Since the commencement of the project, a Senior Engineer was responsible for coordinating this part of work. The relevant staff member compiled and analysed the project programme submitted with the MTRCL's monthly progress reports and reported to HyD management to enable the follow-up action with the MTRCL at PSC level. At the same time, this Senior Engineer would need to take charge of other matters under XRL project. In view of the increasing risk in project completion and the complex and inter-related construction activities involved, HyD deployed an additional Senior Engineer to take charge of **the project programme and progress** from January 2015. He, together with the M&V Consultant and the MTRCL, set up a working group with the specialised staff members from the parties concerned. The establishment of the working group enables in-depth discussion between HyD and MTRCL about the critical construction activities and their inter-relationship, in order to ensure that MTRCL can identify any problems among the large number of inter-related construction activities and follow up in a timely manner.

- (viii) **Arrange the M&V Consultant to conduct more frequent and focus audits on critical contracts**

According to the M&V Consultancy Agreement, the M&V Consultant will conduct audits on major construction contracts and review whether the MTRCL have implemented the project in accordance with their own management system and procedures. The frequency of

verification depends on the criticality and risk level of the individual construction contracts. The audits will cover project programme, cost, site safety, quality control and environmental protection matters etc. In mid-2015, in view of the individual construction contracts that might affect the overall project completion, HyD requested the M&V Consultant to **conduct more frequent and focus audits on those critical and high risk construction contracts**, e.g. the frequency of audits on the construction contracts of WKT is revised from half-yearly to quarterly. The scope of the audits focuses on the issues that need special attention, such as the project cost control and the implementation situation of the XRL project by the MTRCL in accordance with their management system and procedures. Through more frequent and more focus audits, HyD could monitor the implementation of XRL project more effectively.

To sum up, through strengthening the M&V mechanism and works, requesting the MTRCL to better report the works progress, and closer communication with the MTRCL's project team, HyD and its M&V Consultant can have a better control on the progress of various XRL contracts and the difficulties and challenges encountered. HyD and its M&V Consultant may provide suggestions and required coordination in a timely manner, with the target to completing the works according to key milestones under the revised programme. HyD and its M&V Consultant will also closely monitor the expenditure of the XRL contracts, and carefully assess how the MTRCL processes the claims submitted by the contractors.

Yours sincerely,



( Chris NG )

for Secretary for Transport and Housing



c.c.

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