COMMISSION OF INQUIRY INTO THE DIAPHRAGM WALL AND PLATFORM SLAB CONSTRUCTION WORKS AT THE HUNG HOM STATION EXTENSION UNDER THE SHATIN TO CENTRAL LINK PROJECT

SECOND WITNESS STATEMENT OF KWAN PAK HEI LOUIS FOR MTR CORPORATION LIMITED

I, KWAN PAK HEI LOUIS, of MTR Corporation Limited, MTR Headquarters Building, Telford Plaza, 33 Wai Yip Street, Kowloon Bay, Hong Kong, WILL SAY AS FOLLOWS:

- I am a Construction Engineer II Civil of the Shatin to Central Link Project ("SCL Project") of MTR Corporation Limited ("MTRCL"). I am duly authorised by MTRCL to make this statement on its behalf.
- I have previously given a witness statement dated 13 September 2018 [B1/B373-B416] in connection with the Commission of Inquiry into the Diaphragm Wall and Platform Slab Construction Works at the Hung Hom Station Extension under the Shatin to Central Link Project ("Commission of Inquiry").
- 3. I understand that MTRCL is now in receipt of the witness statements submitted by the other involved parties in the Commission of Inquiry. I am providing this second witness statement in order to respond to a number of matters raised in the witness statements submitted by Leighton Contractors (Asia) Ltd ("LCAL"), Fang Sheung Construction Company ("Fang Sheung") and the Government, and to clarify a few matters mentioned in my first witness statement.
- 4. In particular, I will be addressing the following issues raised in the witness statements of the other involved parties:
 - 4.1. Discovery of cutting/shortening of threaded ends of rebars paragraphs 58 to 59 of the first witness statement of Mr Karl Speed (General Manager of LCAL)
 [C11/C7611-C7612] and paragraphs 29 and 32 of the first witness statement of Mr Edward Mok (Graduate Engineer of LCAL) [C12/C8114];

- 4.2. Alleged verbal variations to the works paragraph 5 of the witness statement of Mr Cheung Chiu Fung (Foreman of Fang Sheung) [E5/E875, E879.1]; and
- 4.3. Honeycomb concrete at the soffit of the East West Line ("EWL") track slab paragraph 72 of the witness statement of Mr Lok Pui Fai (Senior Structural Engineer of the Buildings Department ("BD") seconded to the Railway Development Office ("RDO")) [H7/H2207].
- 5. Whilst I am aware of the matters discussed in this witness statement based on my firsthand observations and personal involvement in the SCL Project, and I confirm that the contents of this statement are true to the best of my knowledge and belief, there are occasions when I can only speak to matters by reference to MTRCL's documents due to the lapse of time, in which case I believe the contents of those documents are true and correct.

Discovery of cutting/shortening of threaded ends of rebars

- 6. I note that paragraphs 58 to 59 of the first witness statement of Mr Karl Speed [C11/C7611-C7612] and paragraphs 29 and 32 of the first witness statement of Mr Edward Mok [C12/C8114] allege that Mr Mok recalls identifying cut/shortened threaded ends of rebars during site inspections with a 'MTRCL engineer' in Area C. Neither Mr Speed nor Mr Mok is able to identify the exact engineer being referred to.
- 7. As I have previously explained in paragraphs 36 to 38 of my first witness statement [B1/B383-384], I have no first-hand knowledge of any incidents in which the threaded of rebars have been cut, and I learned about the cutting of threaded ends of rebars for the first time from the email dated 15 December 2015 of Mr Kobe Wong (Senior Inspector of Works II) [B10/B7456-B7460].
- 8. Therefore, I was not present on the occasions described by Mr Mok where he discovered cut/shortened threaded ends of rebars. With the exception of the rebar fixing works in bays C3-2 and C-3 which were inspected by other Construction Engineers ("ConEs"), I confirm that I did not observe any cut/shortened threaded ends of rebars during my hold point inspections of the rebar fixing works in Areas C1, C2 and C3.

Alleged verbal variations to the works

- Paragraph 5 of the witness statement of Fang Sheung's Mr Cheung Chiu Fung [E5/E875, E879.1] alleges that 'due to technical issues, changes were occasionally made on sites [sic] as instructed by the engineers of MTR and Leighton, no document available'.
- 10. It is unclear what issues or changes Mr Cheung is referring to precisely. As far as I am concerned, I only took up site issues with LCAL's frontline staff, and I have never instructed Fang Sheung directly on site to vary any of the rebar fixing works or rectify any non-conformances, whether during my routine site surveillance activities or during hold point inspections. I have explained this previously in paragraph 15.2 of my first witness statement [B1/B378].
- 11. To be clear, as a matter of general practice, MTRCL would not issue any verbal or written instructions or directions to Fang Sheung directly. Nevertheless, there were occasions when technical issues arising from the rebar fixing works were communicated to MTRCL's ConEs by LCAL's frontline staff on site.
- 12. In those circumstances, MTRCL's ConEs would typically ask LCAL to issue a formal request for information ("RFI") through the ePMS this would allow the Construction Manager and/or Senior Construction Engineer (and, if necessary, MTRCL's design management team and Direct Design Consultant) to consider the matter and provide their input. Once MTRCL has issued a formal response to LCAL through the ePMS, it would be for LCAL to direct its subcontractors on site accordingly.
- 13. The process I have described above is demonstrated by the various RFIs arising from the rebar fixing works on Contract 1112 of the SCL Project. For example:
 - 13.1. On 16 October 2015, LCAL issued RFI no. 1112-RFI-LCA-CS-001253
 [B8/B5908] to MTRCL, in order to clarify whether there was any 'RC detail modification at C2-4 EWL slab'. MTRCL responded to this RFI on 26 October 2015 and provided LCAL with the working drawings dated 20 October 2015 (which were current at the time of the rebar fixing works) to clarify the reinforcement details for Area C2-4 of the EWL slab: see Appendix 1 hereto.

13.2. On 19 November 2015, LCAL issued RFI no. 1112-RFI-LCA-CS-001319 [B8/B5932-B4934] to MTRCL, in order to clarify missing/inadequate reinforcement details in the working drawings for Area B. MTRCL responded to this RFI on 24 November 2015 and provided LCAL with advance check prints of revised working drawings incorporating changes made by a Design Amendment Sheet: see Appendix 2 hereto.

Honeycomb concrete

- 14. Paragraph 72 of the witness statement of Mr Lok Pui Fai [H7/H2207] makes reference to the honeycomb concrete reported by MTRCL to the Project Supervision Committee in August 2018. I would briefly address the in-situ concrete coring and compressive tests for concrete with pulverised fuel ash ("PFA") contents >25% and <35%, which were carried out between October 2017 and January 2018. I understand that this is also addressed in some detail in the witness statement of Mr Michael Fu.
- 15. I recall that the core sampling and drilling of the concrete core samples were performed by LCAL – three core samples at the top of the EWL track slab in October 2017, and another three core samples at the top of the NSL track slab in December 2017. All of these core samples were subsequently presented to me by LCAL at MTRCL's site office. Photographs of the core samples and layout plans of the core locations are attached to the *Concrete Core Test Reports*' issued by MTRCL's HOKLAS accredited project Tab EE1 laboratory 2 November 2017 and 18 January 2018 respectively.
- 16. The core samples presented by LCAL were signed by LCAL's technically competent person of Grade T3 i.e. Mr Andy Ip. As a matter of formality, I also countersigned these core samples as a technically competent person of Grade T3 in order to give LCAL permission to send the core samples to the MTRCL project lab in Tseung Kwan O for compressive testing.
- 17. I am aware that the two concrete core test reports issued by the MTRCL project laboratory were formally submitted by LCAL under CSF no. 1112-CSF-LCA-QUM-Tab EE1 000185 on 26 January 2018. Having now reviewed these test reports, I note that these test reports confirm that the compressive strength of the concrete core samples was satisfactory, and more importantly, all core samples were marked as 'N' i.e. normal under

'Condition of core as received', and no honeycombing was recorded under 'Honeycombing (mm from drilling surface)'.

Clarifications in respect of first witness statement

- Finally, I would like to take this opportunity to clarify three matters referred to in my first witness statement dated 13 September 2018 [B1/B373-B416].
- 19. First, in footnote 3 of my first witness statement [B1/B380], I stated that the hold points set out in the Inspection and Test Plan ("ITP") for Area C of the EWL slab (as submitted by LCAL on 19 June 2015) [B6/B3761-B3772] were similarly applicable to Areas A and B of the EWL slab because all three areas were constructed based on a top down methodology. To be clear, I am aware that there are specific ITPs applicable to Area A, Areas B/C1, Areas C2/C3, and Area C-1875 respectively, as detailed in paragraph 15 of the witness statement of James Ho [B1/B325].
- 20. Secondly, I would like to clarify that footnotes 6 to 8 should be references to the following BA-14 as-built drawings for the diaphragm wall:
 - 20.1. Footnote 6 (Example 1: Panel EH 42) as-built drawings no. 1112/Z/HUH/LCA/C12/820 Rev. A and 1112/Z/HUH/LCA/C12/607 Rev. A (Batch 5). The relevant as-built drawings are contained in Appendix 3 hereto for ease of reference.
 - 20.2. Footnote 7 (Example 2: Panel EH 47) as-built drawings no. 1112/Z/HUH/LCA/C12/640 Rev. A and 1112/Z/HUH/LCA/C12/607 Rev. A (Batch 5). The relevant as-built drawings are contained in Appendix 3 hereto for ease of reference.
 - 20.3. Footnote 7 (Example 3: Panel EM 96) as-built drawings no. 1112/Z/HUH/LCA/C12/617 Rev. A and 1112/Z/HUH/LCA/C12/834 Rev. C (Batch 3 Supplemental). The relevant as-built drawings are contained in Appendix 4 hereto for ease of reference.
- Thirdly, in relation to paragraph 62 of my first witness statement (summary of RISC forms which I have signed off for the rebar fixing works) [B1/B397]:

- 21.1. I would like to clarify that I was the ConE responsible for inspecting the rebar fixing works in the 1875 box culverts area, and for signing off RISC form no. 7329 (received by MTRCL on 27 May 2015) [H1/H60].
- 21.2. I should reiterate that the cut-off level of the east diaphragm wall in the 1875 box culverts area (panels EH 75 and 76) was lower than at other locations, such that there were no top cast-in couplers for connection to the top of the EWL slab in that area. I have previously explained this in paragraph 53.1 of my first witness statement [B1/B390], and as far as paragraph 11 of the police statement of Mr Cheung Chiu Fung [E6/E1584.6] suggests that there were misaligned top couplers in the 1875 box culverts area, Mr Cheung's recollection is inaccurate.
- 22. Finally, I would again like to mention the following:
 - 22.1. The events in question and which form the subject matter of the Commission of Inquiry took place several years ago and my recollection of every detail is not therefore perfect.
 - 22.2. Accordingly, in preparing this witness statement I have reminded myself of the events in question by reference to various hard copy and electronic documents and materials, including contemporaneous email correspondence, meeting minutes and contractual documents and other records. I understand these materials were retrieved by MTRCL's Legal Department, with the assistance of the MTRCL's external lawyers, Mayer Brown.

Dated 8th October 2018

K_1-1- -

KWAN Pak Hei Louis