

**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**

FIRST WITNESS STATEMENT OF RAYMOND BREWSTER

I, RAYMOND BREWSTER, of 39/F Sun Hung Kai Centre, 30 Harbour Road, Hong Kong, say as follows:

1. I am the Group Pre-Contracts Manager with Leighton Contractors (Asia) Limited (“**Leighton**”), the main contractor for the Hung Hom Station Extension contract (Contract SCL 1112) (“**Project**”) under the Shatin-Central rail link project. The project manager for the Project is MTR Corporation Limited (“**MTRCL**”).
2. Unless otherwise stated, the facts stated herein are within my personal knowledge and are true. Where the facts and matters stated herein are not within my own knowledge, they are based on the stated sources and are true to the best of my knowledge, information and belief.

My qualifications and experience

3. I am a qualified civil engineer and a Fellow of the Institution of Engineers Australia.
4. I joined Leighton in 1981 as a Project Manager. In 1989, I was promoted to Contracts Manager. In 1996, I was promoted to Construction Manager. In 2003, I was promoted to Project Director and, at the end of 2011, I was promoted to Group Pre-Contracts Manager.
5. In April 2013, I became Leighton’s Authorised Signatory (“**AS**”) for the Project. I carry out the functions of an AS in addition to my role as the Group Pre-Contracts Manager.

My role and responsibilities

6. My usual working hours are from 8:00am to 6:30pm. I often work longer hours in order to perform my role properly.
7. My primary responsibility as the AS for the Project is to ensure that the works were constructed in accordance with statutory requirements.
8. My responsibilities also included:
 - (a) supervising the authorised representatives (“AS Reps”) for the Project;
 - (b) reviewing, finalising and approving the Site Supervision Plans (“SSPs”) which were submitted to MTRCL;
 - (c) ensuring that there were an adequate number of appropriately qualified staff to act as Technically Competent Persons (“TCPs”) to satisfy the SSPs and the Buildings Department’s consultation letters; and
 - (d) notifying MTRCL’s Competent Person of any non-conformances in relation to the works that gave rise to an imminent danger or a material concern for safety.
9. In my capacity as AS for the Project, I also signed certain forms for submission to MTRCL.
10. I am satisfied that I discharged by responsibilities as AS for the Project.

Supervision and Inspections System

11. I understand that the Commission of Inquiry is interested in the connection between reinforcement bars (“rebars”) and couplers in the East West line platform slab (“**EWL Slab**”) and North South line platform slab (“**NSL Slab**”).
12. Leighton implemented a project management system that was designed to deliver the Project and, amongst other aspects of project management, to ensure quality and safety.

As part of this overall approach, Leighton adopted a thorough supervision and inspection system in relation to the installation of reinforcement in the EWL Slab and NSL Slab. In particular, a system of “hold points” was established to ensure that work stopped at key points in the construction process to allow for (among other things) inspections and approval of the works by Leighton and MTRCL.

13. A hold point could only be lifted after the inspection is completed. Hold points were imposed at two key points (so far as is relevant to the Commission of Inquiry):
 - (1) after the installation of the reinforcement; and
 - (2) prior to concrete being poured.
14. The two hold points are key because it was at these times that Leighton and MTRCL conducted the formal inspections for rebar fixing and pre-pour checks. These hold points were only lifted after Leighton and MTRCL approved the works and authorised the subcontractor to proceed. The hold points would not have been lifted if any defective reinforcement bars were identified (i.e. bars not properly connected to couplers).
15. All formal inspections in relation to the reinforcement in the EWL Slab and NSL Slab were completed. In particular, MTRCL provided its approval of the installation of the reinforcement (including, where relevant, the connections between reinforcement bars and couplers) and authorised concrete to be poured.
16. In addition, Leighton ensured that it had teams of TCPs working full-time to supervise the works. These TCPs conducted multiple routine inspections every working day and the two formal inspections for rebar fixing and pre-pour checks with MTRCL’s engineers / Inspectors of Works.
17. The only specific requirements by the Buildings Department (“BD”) in relation to the supervision of the connection between rebars and couplers is set out in Appendices to the BD consultation letters (numbered LCAL.R1.194 in the Index). In summary, the material requirements are as follows:

- (a) Leighton should assign a quality control coordinator¹ to provide full-time supervision of the relevant works and devise inspection checklists; and
 - (b) Inspections should be carried out on the relevant works and records of the inspections should be maintained.
18. Leighton's supervision and inspection system for the reinforcement was more thorough and rigorous than under the BD consultation letters. In particular, Leighton has satisfied the requirements of BD's consultation letters by:
- (a) using teams of TCPs to provide full-time, continuous supervision of the construction of the platform slabs and diaphragm walls, including by way of routine and formal inspections of the reinforcement. These teams were comprised of many qualified and experienced staff (with the necessary TCP grade or above). That is, Leighton did not rely on a single person to perform the quality control role as it would have been inadequate given the scale of the Project and would not have satisfied the demands of the thorough supervision and inspections system that was implemented;
 - (b) completing quality control checklists and forms (in the format approved by MTRCL) for the relevant formal inspections; and
 - (c) ensuring that both Leighton and MTRCL's staff approved the reinforcement installed in the platform slabs and diaphragm walls and MTRCL authorised Leighton to proceed with the pouring of concrete.
19. The AS Reps, TCPs and Leighton's other managers for the Project were experienced construction professionals. In my opinion, they were competent and diligent. I spoke to the on-site staff when the opportunity arose and they would communicate with me whenever I needed to be aware of information in my capacity as AS. For example, they

¹ For those couplers with a ductility requirement, the minimum qualification and experience required of the quality control coordinator is that of a TCP of grade T3. For couplers without a ductility requirement, the minimum qualification and experience required of the quality control coordinator is that of a TCP of grade T1. All of the couplers cast into the construction joints within the EWL Slab and NSL Slab were non-ductile.

would let me know if serious issues arose such as an imminent danger or a matter that gave rise to a material safety concern. I also visited the site as and when required.

20. There were no matters of imminent danger or matters which gave rise to material safety concerns regarding the platform slabs and diaphragm walls. As a result, I did not need to notify MTRCL of any such matters.


Allegation that the threaded ends were cut off rebars

21. I understand that the Commission of Inquiry is interested in the allegation that the threaded ends of rebars were cut off, instead of the bars being screwed into couplers.
22. I do not have any direct or contemporaneous knowledge of the threaded ends of rebars being cut off or shortened. I now know that there were three occasions from around September to December 2015 when a very small number of rebars with the threaded ends cut off were identified by Edward Mok in Area C of the EWL Slab. These defective rebars were rectified immediately.
23. I do not believe the allegation that there could be a significant number of defective rebars installed in the EWL Slab and NSL Slab. This is not plausible. Any such defects would have been identified by the thorough supervision and inspection system. This is what happened for the very small number of defective rebars that were identified and rectified in Area C of the EWL Slab. There is no evidence or any other reason to doubt the effectiveness of the supervision and inspection system for the EWL Slab and NSL Slab.
24. I confirm that I did not give any instructions to any person to cut off or shorten the threaded ends of any rebars or allow such threaded ends to be cut off or shortened. I am also not aware of any Leighton staff who gave or would have given such instructions or would have allowed the threaded ends of rebars to be cut off or shortened.

The works are safe

25. I am satisfied with Leighton's supervision of the Project. We implemented a thorough system of supervision and inspection. In my personal opinion, the EWL Slab and NSL Slab are safe and properly constructed.

Dated the 2nd day of October 2018.

Signed: 
Raymond Brewster