

**Commission of Inquiry into the Construction Works at and near the Hung Hom Station
Extension under the Shatin to Central Link Project**

FIRST WITNESS STATEMENT OF DANIEL TEOH

I, Daniel Teoh of [REDACTED], say as follows:

1. I was, at the times relevant to this statement, a Sub-Agent employed by Leighton Contractors (Asia) Limited (“**Leighton**”), the main contractor for the Hung Hom Station Extension contract (Contract SCL 1112) (the “**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 qualification and experience

3. I commenced my career in construction when I joined Leighton in 1998 as an apprentice. After completing my apprenticeship, I obtained a degree in construction project management. Prior to joining the Project, I had around 16 years professional work experience.

My role and responsibilities on the Project

4. I started working on the Project around April 2014 and left in November 2016. I then worked on other projects for Leighton before leaving Leighton in March 2017.
5. During the construction phase of the Project, I was a member of Leighton’s construction engineering team. The construction engineering team was responsible for (among other things) method statement programming, procurement, management of resources, coordination, supervision and inspection of the works, sequencing of the works and worker safety.

6. I worked on the Stable Sidings (“HHS”) from April 2014 until I left the Project in November 2016. The major works (such as rebar fixing and concrete pours) in the HHS began around end of 2014.
7. My role as Sub-Agent in the HHS involved various tasks, including allocation of labour, supervision of works, co-ordinating with subcontractors. I spent a lot of my time managing Leighton’s team of “frontline” engineers for the works that I was responsible for in the HHS. In particular, I was responsible for accommodation structures, underpasses, box culvert and manholes. Generally, the other frontline engineers working on the HHS were managed by Ronald Leung (Site Agent).
8. These frontline engineers were part of the construction engineering team. They would supervise the subcontractors and conduct both routine and formal inspections of the reinforcement and the preparation work that was conducted before a concrete pour (e.g. erecting formwork). These formal inspections were conducted by one of Leighton’s engineers and either MTRCL’s engineer or Inspector of Works (“IoW”) at the “hold points” specified in the Inspection Test Plans (“ITP”). After completing these formal inspections and obtaining MTRCL’s approval of the works, Leighton’s engineers would arrange and supervise the pouring of concrete.

My daily routine

9. My usual working hours on the Project were from 8am to around 7pm to 8pm with one hour lunch break. I sometimes worked longer hours if the work schedule required or there were urgent tasks to complete.
10. I would usually visit the construction site at least once every working day. I would typically spend around 2 to 3 hours in the construction site on each working day. I would walk around my areas of the construction site during my visits to check on progress of the subcontractors (Wing & Kwong Steel Engineering Co Ltd for rebar fixing and Bik Hoi Civil Engineering Company Ltd for formwork and concreting). I would also conduct routine inspections of the works. Whenever I inspected the rebar fixing works, I would visually inspect the arrangement and spacing of the rebar as well to check that the bars were properly connected by lapping or couplers. If couplers were being used, I would always look to see that all of the threaded ends of rebar were screwed in or only one or two threads were showing out of the coupler.

11. The engineers in my team and MTRCL's engineers/IoWs were often on site at the same time as me. I saw them conducting both routine and formal inspections of the works.
12. I would also sometimes conduct formal inspections of the rebar fixing works and pre-pour checks with MTRCL's engineers/IoWs if the frontline engineers in my team were not available at the time. I discuss these formal inspections in more detail below.

Supervision and inspection

13. As noted above, there were both routine inspections and formal inspections carried out for my areas of the HHS. The formal inspections were jointly conducted by Leighton's frontline engineers and MTRCL's engineers/IoWs. My team of frontline engineers spent at least 4 to 5 hours on site each day completing both routine and formal inspections of the works.
14. Routine inspections were informal and conducted by Leighton's frontline engineers on a daily basis in the HHS area. As noted, I also conducted these type of informal inspections on most days. In addition, the MTRCL's engineers and IoWs conducted their own routine or informal inspections every working day.
15. As part of their routine and formal inspections, my team of frontline engineers would visually inspect the connections between rebar and couplers. The same visual inspection would also be done by MTRCL's engineers and IoWs.
16. The usual process and details involved in the formal inspections were as follows:
 - (a) There were two key formal inspections of the reinforcement. The first was the rebar fixing inspection with MTRCL's engineer. The second was the pre-pour check with MTRCL's IoW;
 - (b) The subcontractors knew that their work would need to be inspected and approved by Leighton and MTRCL before they could proceed to the next stage of the works. These inspections happened at a "hold point". The two key hold points were at the completion of the rebar fixing (i.e. when the formal inspection for rebar fixing would occur) and the completion of pre-pour work (such as the erection of formwork and cleaning) to prepare the area for the concrete pour (i.e.

when the formal inspection for the pre-pour check would occur). These hold points were set out in the ITP and included in the Method Statements. Once a hold point was reached, the subcontractors would stop work and only resume again after the formal inspection was conducted by Leighton and MTRCL and only if both parties gave their approval;

- (c) Before or around the time of a formal inspection, Leighton's engineer would issue a Request for Inspection and Survey Check ("**RISC**") form to MTRCL;
- (d) Once the rebar fixing work was completed, MTRCL's engineer and Leighton's engineer would jointly conduct the formal inspection for rebar fixing;
- (e) My team of frontline engineers usually tried to arrange for some pre-pour work to be completed at the same time as the rebar fixing work. If that happened, the only work that would need to be completed after the formal inspection for rebar fixing was the closing of the formwork. The pre-pour check could then proceed. MTRCL's IoW and Leighton's engineer would jointly conduct the formal inspection for the pre-pour check;
- (f) It was standard practice for MTRCL's engineer/IoW to verbally approve the works after the formal inspections and to verbally authorise Leighton to proceed with next stage. The only exception would be if MTRCL required rectifications to be made to any of the works. If possible, Leighton would ensure that any rectifications were completed immediately by the subcontractor during the inspection. Otherwise, if more time was required to complete the work, Leighton's staff would check the work later before arranging a further inspection with MTRCL. Thereafter, MTRCL's engineer/IoW would inspect the rectification and give their verbal approval; and
- (g) It was standard practice for work to proceed after verbal approval was obtained from MTRCL following a formal inspection. This allowed works to continue without delay. MTRCL's engineer/IoW would then complete the RISC form to record their approval and return it to Leighton at a later date.

17. The formal inspections for rebar fixing usually involved checking the arrangement of the rebar, the size of the rebar, the spacing of the rebar, the lap length of the rebar and the connections between rebar and couplers.
18. I held a morning briefing each day with my team of engineers to discuss progress, confirm which formal inspections would be conducted on the day and discuss the schedule for the days ahead. I also spoke to my team members frequently throughout each day. As a result, I knew which inspections were scheduled and whether MTRCL had given its approval after the inspections were completed.
19. My team was very diligent in completing routine and informal inspections. We also supported each other to ensure that those inspections were completed on time. For example, I sometimes conducted formal inspections in the HHS when members of my team were not available.
20. If I conducted formal inspections on behalf of my frontline engineers, I instructed them that they had to submit the RISC forms for those inspections. After completing the inspection, I would update them on the result and tell them to complete the RISC form.

RISC Forms

21. Leighton has disclosed a table summarising the records of the formal inspections for rebar fixing and pre-pour checks for the HHS (numbered **LCAL.HHS.2.01**) in the Index). This table shows that Leighton's engineers in the HHS submitted some but not all of the RISC forms for these formal inspections.
22. As noted, I knew that my team were completing the required formal inspections promptly and they always obtained MTRCL's approval of the rebar fixing and pre-pour works before allowing the subcontractors to proceed with the next stage. No concrete was poured without MTRCL's approval in my areas of the HHS.
23. I knew during the period of construction of the HHS that some of the RISC forms of the formal inspections in the HHS had not been completed by the frontline engineers in my team. Mr. Victor Tung, MTRCL's Senior IoW, spoke to me a few times during that period and told me that some of the frontline engineers in the HHS were behind in submitting their RISC forms. Shortly after Victor spoke with me, I instructed my team

to get their RISC forms up to date. During those discussions, I recall that members of my team confirmed that they had fallen behind in submitting RISC forms because they were spending all of their time doing more urgent work such as supervising the works and conducting inspections.

24. When I left the Project in November 2016, I did not know how many RISC forms were outstanding for the formal inspections in my areas of the HHS. I had assumed that other supervisors in Leighton would follow up with my engineers if any were not completed.
25. I have recently learned that one member of my team (Roger Lai) did not complete all of the RISC forms for the formal inspections for rebar fixing and pre-pour checks that he was responsible for in the HHS.
26. In any event, I can confirm from my personal experience and from communications with my team and MTRCL's engineers/IoWs during the construction of the HHS that:
 - (a) the engineers in my team and MTRCL's engineers/IoWs conducted the formal inspections for rebar fixing and pre-pour checks for all relevant concrete pours in the HHS;
 - (b) the engineers in my team and MTRCL's engineers/IoWs approved the works after each formal inspection (or at a subsequent inspection if rectifications were required) and approved the pouring of concrete for all relevant concrete pours in the HHS; and
 - (c) any defects in the reinforcement that were identified by my team and MTRCL's engineers/IoWs were rectified before concrete was poured.
27. This is supported by the MTRCL's site diary entries, which typically record the rebar fixing works, preparation work for concrete pours and the concrete pours. It is also consistent with the concrete cube test results for relevant areas, which record the date of the relevant concrete pour and show that MTRCL was aware that the pour was happening at that time. These site diary entries and concrete cube test results have been disclosed to the Commission (at number **LCAL.HHS.2.02** in the Index). Generally, the formal inspection for rebar fixing occurred on the day (or shortly after) when the

rebar fixing was completed and the formal inspection for the pre-pour check occurred either on the day before or on day when the concrete was poured.

28. The engineers in my team also obtained TW4 (permit to load) forms to be the extent that they were required for the formwork. These TW4 forms would be signed and issued by a Temporary Works Coordinator after they had inspected and approved the formwork. Typically, the TW4 forms were given to the MTRCL's IoW to show that the formwork had been approved. A copy of these TW4 forms has been disclosed to the Commission (at number **LCAL.HHS.2.02** in the Index). These TW4 forms provide further evidence that the engineers in my team were supervising and inspecting the works.

Testing of rebar and couplers

29. The engineers in my team were responsible for ordering batches of rebar to install in the HHS and arranging for those batches to be tested when they arrived on site. The engineer who ordered the batches was usually responsible for arranging the testing. I was not involved in the ordering or arranging the testing of rebars.
30. During the period of construction, I understood that all of the tests for the batches of rebar ordered by my team had been completed and the results were satisfactory.
31. The testing of couplers was arranged by another Leighton engineer who was not in my team. This work was not handled by my team of engineers. I understand that all of the couplers used in the Project were tested and passed such tests.

Use of couplers on the Project

32. I understand that there were some construction joints in the Project where couplers were used instead of laps to connect rebar. I did not work on any those construction joints. However, I expect that there would have been legitimate reasons why couplers were used in those locations. I also believe that MTRCL would have been aware of couplers being used and would have inspected them during the formal inspections for rebar fixing and pre-pour checks.

The works are safe

33. In the areas that I was responsible for on the Project (which is all that I can comment on), I am satisfied with Leighton's and my supervision of the Project. We implemented a thorough system of supervision and inspection.
34. In my personal opinion, I believe that the works that were supervised by me and my team of engineers are safe and properly constructed.

Dated the 24 day of MAY 2019.

Signed:  _____

Daniel Teoh