

**COMMISSION OF INQUIRY INTO THE CONSTRUCTION WORKS AT AND NEAR  
THE HUNG HOM STATION EXTENSION  
UNDER THE SHATIN TO CENTRAL LINK PROJECT**

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**WITNESS STATEMENT OF TANG SIU HANG, TONY  
FOR  
MTR CORPORATION LIMITED**

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I, **TANG SIU HANG, TONY**, of MTR Corporation Limited, MTR Headquarters Building, Telford Plaza, 33 Wai Yip Street, Kowloon Bay, Hong Kong, **WILL SAY AS FOLLOWS**

1. I am an Inspector of Works- Civil (“**IOW**”) of MTR Corporation Limited (“**MTRCL**”) for the Shatin to Central Link Project (“**SCL Project**”). I am duly authorised by MTRCL to make this statement on its behalf.
2. I obtained a Certificate (Civil Engineering) from the Hong Kong Institute of Vocational Education in 2007.
3. I first joined MTRCL in June 2010 as an Assistant Inspector of Works- Civil (“**AIOW**”) for the Express Rail Link under Contract 811A and I remained in that position until May 2013. Since June 2013, I have been the IOW for the SCL Project under Contract 1112.
4. For the first few months after I joined Contract 1112, I was assigned to the South Approach Tunnels of Contract 1112 (“**SAT**”). Since around September/October 2013 (I cannot now remember the precise date), I have been responsible for the works in the North Approach Tunnels of Contract 1112 (“**NAT**”). I was not responsible for the works at the Hung Hom Stabling Sidings (“**HHS**”) until April 2018 when I was requested to also cover the works there as well. I have reported to a number of SIOWs in the past, including Pedro So, Victor Tung, Kenneth Kong, and Albert Wan. Since November 2018, I have been reporting to Ivan Fong, who is the current SIOW.
5. I am providing this witness statement in response to a letter dated 22 March 2019 in relation to NAT (“**NAT Letter**”) from Messrs. Lo & Lo, Solicitors, who I understand

are the solicitors acting for the Commission of Inquiry into the Construction Works at and near the Hung Hom Station Extension under the Shatin to Central Link Project (“**Commission of Inquiry**”).

6. The matters raised in the NAT Letter which I will deal with in this witness statement are those listed as Request Item Nos. 1.11, 1.13, 1.21.2, 1.21.3, 1.21.4, 1.21.6, 1.22, 1.23.2, 1.22, 1.23.2, 2.10, 2.12, 2.21.2, 2.21.3, 2.21.4, 2.22, and 3.21.
7. While I am aware of the matters raised in Request Item Nos. 1.11, 1.13, 1.21.2, 1.21.3, 1.21.4, 1.21.6, 1.22, 1.23.2, 1.22, 1.23.2, 2.10, 2.12, 2.21.2, 2.21.3, 2.21.4, 2.22, and 3.21 of the NAT Letter based on my first-hand observations and personal involvement in the SCL Project since June 2013, and I confirm that this statement is 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, in which case I believe the contents of the same to be true and accurate.

**Supervision, Inspection and Records: the 3 Stitch Joints**

**Request No. 1.21.2 of the NAT Letter: describe and explain the frequency of the supervision and inspection by the inspectors of MTRCL.**

**Request No. 1.21.3 of the NAT Letter: describe and explain how supervision and inspection were actually carried out in respect of such works.**

**Request No. 1.21.4 of the NAT Letter: explain and confirm whether and if so, at which stages in the rebar fixing and concreting works (for the 3 Stitch Joints) RISC form inspections were carried out, and in particular, whether a RISC form inspection had actually been carried out before concreting works began.**

**Request No. 1.21.6 of the NAT Letter: MTRCL alleged that RISC forms and QSP checklists for the 3 Stitch Joints were unavailable because Leighton “has failed to comply with the administrative process to give notice of inspections to MTRCL”. Explain whether this means that MTRCL inspectors (not having received notice of inspections) have, in fact, never conducted the necessary RISC form inspections on the 3 Stitch Joints.**

8. As IOW, my primary role was to conduct daily surveillance to monitor the day-to-day site works of the contractor, Leighton Contractors (Asia) Limited (“**Leighton**”), and its sub-contractors, at the locations, to which I was assigned. Typical areas of activities covered by site surveillance were: (i) general works being constructed/ installed; (ii) general progress of site works; (iii) general site management; and, (iv) safety.
9. Insofar as the general rebar fixing works are concerned, if I observed: (i) any issue relating to the spacing and size of rebars being fixed; or, (ii) that the rebars were not connected to the couplers properly or at all, during my daily surveillance, I would raise the issue with the workers on site and report the matter to the SLOW and/or ConEs.
10. However, I wish to point out that my responsibility is to conduct daily surveillance of the entire NAT (including the North Fan Area), which is a large area. Whilst I did carry out site surveillance at the 3 Stitch Joints and the Shunt Neck Joint, I did not spend 100% of my time at those locations only.
11. The detailed inspections of works were conducted at various formal hold point inspections by the relevant IOW or ConE. I would carry out inspections at a number of construction stages, including concrete blinding, waterproofing, cathodic protection, formwork, and pre-pour inspection. However, I was not involved in the rebar fixing inspections, which was the responsibility of the ConEs.
12. I took photos at site every day to record: (i) the daily surveillance I conducted with regards to the construction works being carried out at the time and site safety conditions; as well as, (ii) the formal inspections I conducted.
13. I worked daily between 8:30 am and 6:00 pm. I spent about 4 to 5 hours every day conducting daily site surveillance of works in NAT (including the North Fan Area). Occasionally, I was also requested to work night shifts in other areas.
14. As part of my duty, I was also responsible for signing off some of the Request for Inspection/ Survey Check (“**RISC**”) forms in quadruplicate (i.e. in four layers of white, pink, yellow, and blue paper respectively) issued by Leighton for the inspections that I performed.
15. The RISC form process is as follows:-

- (1) When Leighton considered that a piece of construction work was ready/ or about to be ready for inspection by MTRCL, it would submit a RISC form for the inspection of such work to the Administrative Assistant (“AA”) of MTRCL. Before the RISC form was delivered to the AA, Leighton would remove the blue carbon copy for their own recordkeeping.
- (2) Upon receipt, the AA would write down by hand at the top of “Part B” of the RISC form the date and time of when she first received the form.
- (3) The AA would update the RISC Form Register on MTRCL’s server by inputting the contents of “Part A” of the RISC form, which sets out, *inter alia*, the location and the type of works to be inspected under the RISC form.
- (4) The AA would pass the RISC form to the SIOW who was in charge of RISC forms for his further handling.
- (5) Upon receipt, the SIOW would fill out the “Received by” section under “Part B” of the RISC form recording the date on which he received the RISC form. After that, the SIOW would distribute the RISC form to the IOW/ ConE responsible for the relevant inspection.
- (6) The IOW/ ConE would conduct the necessary inspection and record in “Part B” the date and time of the inspection and in “Part C” the outcome of the inspection.
- (7) The IOW/ ConE would update the RISC Form Register recording: (i) who conducted the relevant inspection; (ii) outcome of the inspection; and, (iii) whether re-inspection was required, or the RISC form had been closed out.
- (8) The IOW/ ConE would return the RISC form back to the SIOW, who would check the RISC form to ensure that all components had been filled out, but he would not verify the contents. The SIOW would then endorse the RISC form at the bottom of “Part C”.
- (9) The SIOW would then return the endorsed RISC form back to Leighton.

(10) Leighton would sign off the “Contractor’s confirmation of receipt” at the bottom of the RISC form and return the pink and yellow carbon copies to MTRCL for their recordkeeping.

16. However, it should be noted that the majority of the formal hold point inspections that I conducted in NAT were carried out without the relevant RISC forms being in place at the time. This was because on many occasions, I received phone calls from Leighton’s frontline staff (including Regina Wong (Sub-Agent), Issac Ng (Engineer), and Henry Lai (Engineer)) requesting that I conduct the necessary inspection on their promise that the relevant RISC forms would be submitted shortly thereafter for my signature.
17. In order not to hold up the construction progress at site, I acceded to these requests and conducted the necessary inspections, and where I was satisfied with the conditions, I gave the relevant permission for works to proceed to the next stage, with the understanding that I would receive the corresponding RISC forms shortly thereafter for my signature.
18. For the RISC forms that I did eventually receive after the relevant inspection, I would write down the date of inspection in the RISC forms by reference to photos. Further, I would usually, but not always, leave a remark of “late submission” when signing off the RISC forms to signify that the RISC form only became available to me after I conducted the relevant inspection.
19. The lateness of a RISC form is also apparent when one compares the date and time of receipt by the AA of MTRCL and the date and time of the inspection stated in the RISC form. If the date and time of receipt by the AA is subsequent to that of the inspection, (see for example RISC Form No. 1112-CIV-010694), the submission was late.
20. A RISC form would also not be available to me at the time of inspection if Leighton only sent it to the AA a few hours before the inspection. As described at paragraph 15 above, before I received a RISC form it would first need to be processed by the AA and the SIOW. This process would usually take up to a day. On many occasions, I did not receive the RISC form when I conducted the relevant inspection, despite the RISC form having already been submitted to the AA. This is because the AA and the SIOW would require time to process the RISC form before it was passed on to me.

21. In order to ensure that the RISC forms are available at the time of inspection, Leighton needs to issue RISC forms in good time to MTRCL to conduct inspections. Providing a RISC form just a few hours before the inspection is not adequate written notice to enable the RISC form to reach the relevant IOW or ConE. For RISC forms that were submitted prior to the inspection but were not made available to me by the time of inspection, I would also leave a "late submission" remark on the RISC form.
22. For instance, in RISC Form No. 1112-CIV-009772 for the pre-pour inspection of the NAT NSL Track Slab Bay 2, it is stated that the AA received the RISC form on 26 January 2016 at 13:00 and that I conducted the inspection on the same day at 16:00. However, it is noted that the date of receipt by Kobe Wong (SIOW) (i.e. the date of "Received by" stated in "Part B") was 27 January 2016. This shows that the RISC form was processed by the AA and the SIOW between 26 and 27 January 2016. The RISC form was passed on to me thereafter, namely after the relevant inspection conducted on 26 January 2016. Consequently, I remarked "late submission" on the RISC form when I signed it off.
23. The North Fan Area and the rest of NAT were managed by two separate teams of Leighton. The North Fan Area was managed by Issac Ng and Regina Wong. The rest of NAT was managed by Henry Lai and Chan Hon Sun (Sub-Agent).
24. The RISC forms for the North Fan Area were generally in order. However, for the rest of NAT, Leighton's promise to submit a RISC form shortly after the relevant inspection only materialised on a very limited number of occasions.
25. For most of the inspections that I conducted in NAT (other than the North Fan Area), Leighton never submitted any RISC form. Between 2016 and 2017, I made repeated oral complaints to Henry Lai, Chan Hon Sun, and Joe Tam (Construction Manager of Leighton) in relation the outstanding RISC forms, but to no avail.
26. In or around the same period, I also orally raised the matter repeatedly to Kenneth Kong (SIOW). With a view to compelling Leighton to address the issue of the lack of RISC forms, Kenneth Kong issued an email entitled "Notice of works/submit of RISF" on 24 March 2017 to Ian Rawsthorne (Project Manager of Leighton) and copied in a number of Leighton's representatives (including Anthony Zervaas (Project Director), Kevin Harmann (Quality and Environmental Manager), Joe Tam, Ritter Kwok (Senior

Engineer) Benny Chow (Site Agent), and Ronald Leung (Site Agent)) complaining about the lack of RISC forms:-

*“Dear Ian,*

*It is very disappointed for your front line Engineers/Agents without submit the Request for Inspection form to our Inspectors/Construction Engineers I/II for any black and white notice of works through the RISF for a certain months. This cases were mostly happened at SAT, NAT and HHS respectively. The contractor should adequate notice MTR through the RISF to our Construction Engineers I/II/ Inspectors to carry out the individual on- site inspection.*

*I draw your attention that under contract obligation as stated in clause G12.4.3 of General Specification and together written in your ITP under your submitted method statements are required, your current performance near “Zero submission of RISF” is totally unacceptable for the above mentioned locations.*

*In order to avoid any breaching of the contract obligation and please chase your guys to take immediately follow up action for this issue.”*

27. Unfortunately, despite my repeated oral complaints and Kenneth Kong’s written protest, the situation did not improve. Leighton continued to request that I conduct inspections without RISC forms. In order not to hold up the construction progress at site, I acceded to these requests and conducted the necessary inspections without there being any RISC form in place.
28. It was in these circumstances that my inspections for the construction of the 3 Stitch Joints were carried out in 2017. Consequently, due to the continued default of Leighton in terms of providing RISC forms, there was no RISC form for these construction works. However, and importantly, I did in fact carry out formal hold point inspections for the 3 Stitch Joints.
29. In respect of the rebar fixing works and concreting works for the 3 Stitch Joints, according to the “NAT-Method Statement of Permanent Structure Construction of East West Line (EWL) and North South Line (NSL) at North Approach Tunnel (NAT)” (1112-CSF-LCA-CS-000673A) (the “**1112 NAT Method Statement**”) and the

Inspection and Test Plan (1112-CSF-LCA-CS-003280) (“ITP”), there were two hold point inspections: (1) rebar fixing inspection; and, (2) the pre-pour inspection. As IOW, I was only responsible for the latter and not for the former, which was the responsibility of the ConE (Chris Chan was ConE I and Kappa Kang was ConE II for NAT at the time). Once the rebar fixing works were completed, Leighton would request the ConE to conduct formal inspection of the works. It was only after the ConE gave his/her permission on behalf of MTRCL for Leighton to proceed to the next stage that Leighton would request that I conduct the pre-pour inspection.

30. The pre-pour inspection involved inspecting the bay for cleanliness and debris in preparation for the concreting works. Upon a satisfactory pre-pour inspection and approval, Leighton would instruct Hills Construction Limited (“Hills”), Leighton’s concreting subcontractor for NAT (other than the North Fan Area), to proceed to pour the concrete in the relevant bay of the East West Line (“EWL”) and the North South Line (“NSL”).
31. Based on the Pour Summary for NAT prepared by MTRCL’s Projects Team :-
  - (1) The rebar fixing and concreting works of the EWL Stitch Joint at the interfacing location of Contract 1111/1112 took place between 22 and 24 January 2017;
  - (2) The rebar fixing and concreting works of the NSL Stitch Joint at the interfacing location of Contract 1111/1112 were carried out in two phases. The rebar fixing and concreting works for: (i) the NSL track slab of the Stitch Joint at the interfacing location took place between 5 and 8 July 2017; and, (ii) the NSL wall and roof of the Stitch Joint at the interfacing location took place between 22 July and 2 August 2017.
  - (3) The rebar fixing and concreting works of the NSL Stitch Joint within Contract 1112 were carried out in two phases. The rebar fixing and concreting works for: (i) the NSL track slab of the Stitch Joint within Contract 1112 took place between 29 May and 7 June 2017; and, (ii) the NSL wall and roof of the Stitch Joint within Contract 1112 took place between 26 July and 9 September 2017. In relation to the construction of the roof, although the rebar fixing works were carried out between 27 and 29 July 2017, the concreting of the roof did not take place until 9 September



2017 due to the need to make way for the track-laying works in the NSL Tunnels in the intervening period.

32. I conducted pre-pour inspections and gave permission to proceed for the 3 Stitch Joints except for the walls and roof of the NSL Stitch Joints at the interfacing location of Contract 1111/1112 and within Contract 1112. This is because I was on holiday between 22 and 30 July 2017. By the time I came back to work from holiday on 31 July 2017, the formwork had already been erected or the concreting works had already been carried out at the walls and roof of the NSL Stitch Joints.

**Request No. 1.22 of the NAT Letter: Notwithstanding the Requirements, Standards and Practice for the supervision and inspection of the rebar fixing and concreting works, explain why MTRCL did not, at any stage prior to concreting and completion of the construction of the 3 Stitch Joints, detect and discover: that wrong rebars and/or couplers were ordered and used by Leighton and its contractor for the construction of the 3 Stitch Joints; that the rebars at the 3 Stitch Joints were not connected to couplers and/or were not properly connected and that the defects were only discovered some time after the completion of the 3 Stitch Joints and as a result of investigation on subsequent water seepages.**

33. As noted above, insofar as formal inspection of the rebar fixing and concreting works of the 3 Stitch Joints is concerned, I was only responsible for the pre-pour inspection and not the rebar fixing inspection.
34. Unlike ConEs, as IOW, I did not have the most up to date drawings for the 3 Stitch Joints to conduct any proper rebar fixing inspection on my own. When I conducted pre-pour inspection, I only focused on matters within my scope of responsibility, namely checking for cleanliness and debris.
35. In any event, I did not notice any abnormal rebar fixing works when I conducted the pre-pour inspections. If I had seen any defective coupler connections at the 3 Stitch Joints at the time, I would have raised it with both Leighton and my superiors.
36. Further, I did not notice any defective rebar connection to the couplers at the 3 Stitch Joints during my daily surveillance of NAT either. As mentioned above, while during my daily surveillance I would look out for the general spacing of the rebars which had

been fixed, it was not my responsibility to and I did not conduct any ‘man-marking’ or continuous supervision over the rebar fixers when they were conducting their works, which was the responsibility of Leighton. The detailed inspections of the works were conducted at various formal hold point inspections by the relevant IOW or ConE. As shown in my photos taken during the rebar fixing and concreting works of the track slabs at 3 Stitch Joints, the now known defective coupler connections at the 3 Stitch Joints were not readily apparent to the naked eye during my daily surveillance. I understand that the said photos are included in the documents disclosed by MTRCL to the Commission of Inquiry.

**Request No. 1.23.2 of the NAT Letter: By HyD’s letter dated 1 March 2019, there was suggestion that water seepage had recurred at the 3 Stitch Joints, please explain why, notwithstanding the rectification works, water seepage has persisted. Describe and explain the cause of the repeated water seepage and the steps taken to investigate and rectify the defects.**

37. On or around 15 February 2019, I noticed during my daily surveillance that there was water seepage at the 3 Stitch Joints. I reported the same to Jacky Lee (SConE) via WhatsApp.
38. On or around 1 March 2019, I conducted a site visit with Jacky Lee and representatives of RDO and water seepage was observed at the 3 Stitch Joints during the site visit.
39. On 20 March 2019, I was instructed by Jacky Lee to conduct a joint inspection with Man Sze Ho (Assistant Engineer of Leighton) of the water seepage at the 3 Stitch Joints. I identified 16 water seepage locations at the 3 Stitch Joints (“Snag List for Water Seepage in NAT Stitch Joint” (“**Snag List**”) items 1 to 16) and I requested Man Sze Ho to follow up on these 16 locations. I took photos to record the water seepage locations. I understand that the said photos will be included in the documents disclosed by MTRCL to the Commission of Inquiry.
40. Between around 22 March and 11 April 2019, Leighton instructed its sub-contractor, Merman Technology Company Limited (“**Merman**”), to conduct grout injection at these 16 locations. Leighton requested and I did witness the grouting in progress. I took photos of the grouting in progress. I understand that the said photos will be included in the documents disclosed by MTRCL to the Commission of Inquiry.

41. On 12 April 2019, Man Sze Ho and I conducted a re-inspection of the 3 Stitch Joints. No water seepage was found on the day of the re-inspection at the 16 locations previously identified with water seepage (Snag List items 1 to 16). However, I identified 3 other locations with minor water seepage (Snag List items 17-19) and I requested Man Sze Ho to follow up on these 3 new locations. I took photos to record the water seepage locations. I understand that the said photos will be included in the documents disclosed by MTRCL to the Commission of Inquiry.
42. On or around 13 April 2019, Leighton instructed Merman to conduct further grout injection at these three locations. Leighton requested and I did witness the grouting in progress. I took photos of the grouting in progress. I understand that the said photos will be included in the documents disclosed by MTRCL to the Commission of Inquiry.
43. On 18 April 2019, Man Sze Ho and I conducted a re-inspection of the 3 Stitch Joints. No water seepage was found on the day of the re-inspection at the 3 locations previously identified with water seepage (Snag List items 17-19). However, I identified 1 other locations with minor water seepage (Snag List item 20) and I requested Man Sze Ho to follow up on this new location. I took photos to record the water seepage location. I understand that the said photos will be included in the documents disclosed by MTRCL to the Commission of Inquiry.
44. I understand that the follow up works on water seepage at the 3 Stitch Joints are ongoing as at the date of this witness statement.
45. The abovementioned inspections were recorded in the following RISC forms (which contain photographic records): 1112-CIV-013881; 1112-CIV-013896; 1112-CIV-013891; 1112-CIV-013987; 1112-CIV-013898; 1112-CIV-013903; 1112-CIV-013904; 1112-CIV-103909; 1112-CIV-013914; 1112-CIV-013917; 1112-CIV-013942; 1112-CIV-013944; 1112-CIV-013952; 1112-CIV-013957; 1112-CIV-013974; and 1112-CIV-013975.

**Supervision and Inspection: Shunt Neck**

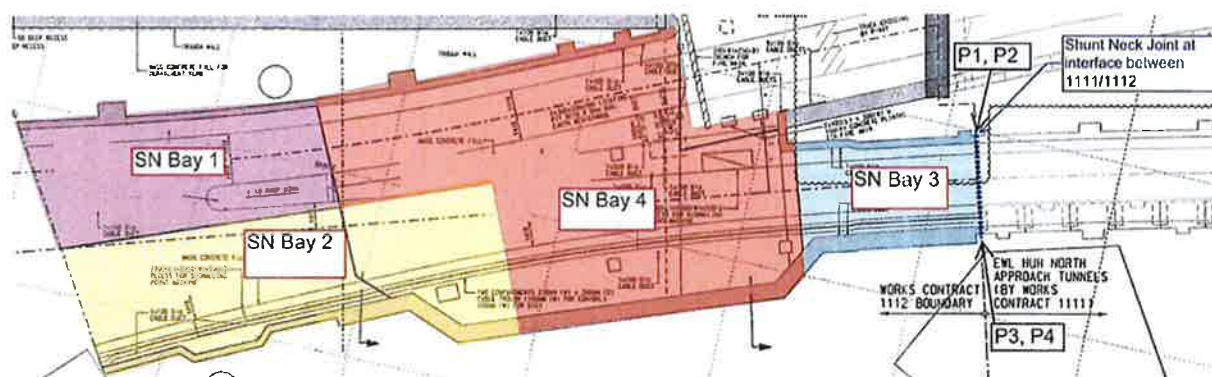
**Request No. 2.21.2 of the NAT Letter: describe and explain the frequency of the supervision and inspection by the inspectors of MTRCL.**

**Request No. 2.21.3 of the NAT Letter: describe and explain how supervision and inspection were actually carried out.**

**Request No. 2.21.4 of the NAT Letter: explain and confirm whether and if so, at which stages in the SNJ Works RISC form inspections were carried out, and in particular, whether, as a matter of fact, a RISC form inspection had actually been carried out before concreting works began.**

46. As noted above, the rebar fixing and concreting works of the 3 Stitch Joints took place between January and September 2017. Based on the Pour Summary for NAT prepared by MTRCL's Projects Team, the rebar fixing and concreting works of the Shunt Neck Joint took place within the same period:-

- (1) The rebar fixing and concreting work of the Shunt Neck Bay 3 (which consists of the Shunt Neck Joint and interfaces with the Shunt Neck structure under Contract 1111 (see Figure 1 below)) track slab took place between 4 and 5 January 2017;
- (2) The rebar fixing and concreting work of the Shunt Neck Bay 3 walls took place between 13 February and 22 March 2017.



**Figure 1- Location of the Shunt Neck Joint<sup>1</sup>**

47. As with the problem during the construction of the 3 Stitch Joints, despite my repeated oral complaints, Leighton continued to request that I conduct inspections of works for Shunt Neck Bay 3 without the relevant RISC forms. In order not to hold up the construction progress at site, I acceded to these requests and conducted the necessary inspections, and where I was satisfied with the conditions, I gave the relevant

<sup>1</sup> Extract of the Attachments of the 2<sup>nd</sup> Shunt Neck Report

permission for works to proceed to the next stage, without there being any RISC form in place.

48. It was in these circumstances that the inspection of the construction of Shunt Neck Bay 3 (which consists of the Shunt Neck Joint) was carried out. Therefore, due to the continued default of Leighton in terms of providing RISC forms, there was no RISC form for these construction works. However, and importantly, I did carry out the formal hold point inspections for Shunt Neck Bay 3 (which consists of the Shunt Neck Joint).
49. In respect of the rebar fixing works and concreting works for Shunt Neck Bay 3 (which consists of the Shunt Neck Joint), according to the 1112 NAT Method Statement and in the ITP, there were two hold point inspections: (1) rebar fixing inspection; and, (2) the pre-pour inspection. As IOW, and as I have already stated above, I was only responsible for the latter and not for the former, which was the responsibility of the ConE. Once the rebar fixing works were completed, Leighton would request the ConE to conduct a formal inspection of the works. It was only after the ConE gave his/her permission on behalf of MTRCL for Leighton to proceed to the next stage that Leighton would request that I conduct the pre-pour inspection.
50. The pre-pour inspection involved inspecting the bay for cleanliness and debris in preparation for the concreting works. Upon a satisfactory pre-pour inspection and approval, Leighton would instruct Hills to proceed to pour the concrete in Shunt Neck Bay 3 (which consists of the Shunt Neck Joint).
51. I conducted pre-pour inspections and granted approval to proceed for the construction of Shunt Neck Bay 3 (which consists of the Shunt Neck Joint).

**Request No. 2.22 of the NAT Letter: Notwithstanding the Requirements, Standards and Practice for the supervision and inspection of the rebar fixing and concreting works for the Shunt Neck Joint, explain why MTRCL did not, at any stage prior to concreting and completion of the construction of the Shunt Neck Joint, detect and discover : that there was a mis-match in materials between Contract 1112 and Contract 1111 and that wrong rebars were ordered and used by Leighton and its contractor under Contract 1112 for the construction of the Shunt Neck Joint; that Leighton has proceeded on the basis of constructing a stitch joint instead of a construction joint as required; that the wrong rebars acquired under Contract 1112 were simply slotted into the couplers installed at the**

**Contract 1111 interface and not properly screwed into the couplers, and that the Shunt Neck Joint was not constructed in accordance with the Requirements, Standards and Practice and that the defects were only discovered some time after the completion of the Shunt Neck Joint and only as a result of subsequent investigation carried out in 2018.**

52. As I have mentioned above, rebar inspection was not my responsibility and I did not have the requisite drawings to check the rebar installation details. That said, I did not notice any abnormal rebar fixing works when I conducted the pre-pour inspections. If I had seen any defective coupler connections at the Shunt Neck Joint at the time, I would have raised it with both Leighton and my superiors.
53. Further, I did not notice any defective rebar connection to couplers at the Shunt Neck Bay 3 (which consists of the Shunt Neck Joint) during my daily surveillance of NAT either. While I would look out for the general spacing of the rebars being fixed during my daily surveillance, it was not my responsibility to and I did not conduct any 'man-marking' and continuous supervision over the rebar fixers when they were conducting their works, which was the responsibility of Leighton. As shown in my photos taken during the rebar fixing and concreting works of the track slab at Shunt Neck Bay 3, the now known defective coupler connections at the Shunt Neck Joint were not readily apparent to the naked eye during my daily surveillance. I understand that the said photos are included in the documents disclosed by MTRCL to the Commission of Inquiry.

**Materials (Couplers and Rebars)**

**Request No. 1.11 of the NAT Letter: Identify the party or parties which placed the order for couplers and rebars for the 3 Stitch Joints and explain the role of MTRCL in the ordering, checking and testing of couplers and rebars and in ensuring that only the correct materials were used.**

**Request No. 1.13 of the NAT Letter: Confirm whether MTRCL would inspect and check the materials (couplers and rebars) against Requirements, Standards and Practice after such materials were delivered to the site and before they were used for the construction of the 3 Stitch Joints.**

**Request No. 2.10 of the NAT Letter: Identify the party which placed the order for couplers and rebars for the Shunt Neck Joint and explain the role of MTRCL in the ordering, checking and testing of couplers and rebars and in ensuring that only the correct materials were used to build a construction joint (as opposed to a stitch joint).**

**Request No. 2.12 of the NAT Letter: Confirm whether MTRCL would inspect and check the materials (couplers and rebars) against Requirements, Standards and Practice after such materials were delivered to the site and before they were used for the construction of the Shunt Neck Joint.**

**Request No. 3.21 of the NAT Letter: Confirm whether MTRCL would inspect, check and test the materials (couplers and rebars) against Requirements, Standards and Practice after such materials were delivered to the site and before they were used for the construction of NAT. Produce evidence of inspection, checking and testing of materials.**

54. I was not involved in the ordering of rebars, but I was involved in the sampling process of the ordered rebars for material testing in NAT. Clause 10.14 and Appendix 10.1 of the Materials and Workmanship Specification for Civil Engineering Works (“**M&W Specification**”) [C/3754, 3769-3772] govern the sampling procedure of rebars.
55. When a batch of rebars ordered by Leighton arrived at NAT, Leighton frontline staff would orally request in person or over the phone that I (or other IOWs who were available at the time) conduct sampling of rebars for material testing. Formally, there should be a RISC form for the sampling of each batch of rebars. However, as noted above, the RISC forms were often late, and I conducted the sampling of rebars with the understanding that I would receive the corresponding RISC forms soon after for my signature.
56. For the purpose of sampling each batch of rebars, I was provided with mill certificates of the batch and delivery notes. The mill certificates contained information on the batch of rebars, which includes the following:-
- (1) The name of the manufacturer;
  - (2) Mill certificate number;
  - (3) Bar mark code and bar pattern;

- (4) "Heat number", which corresponded with the information contained in the tag attached to each sub-batch;
- (5) Size and weight of the rebars;
- (6) Chemical composition of the rebars; and
- (7) Results of tensile test of the rebars.

(See Appendix I for a sample set of RISC form, mill certificates, delivery notes, and photos taken during the sampling process.

57. Before I conducted the sampling of rebars, I would check the batch of rebars against the information contained in the mill certificates to verify that the mill certificates that I had been provided with corresponded with the batch of rebars that I was to sample.
58. Thereafter, I proceeded with the sampling of the rebars in accordance with the requirements under Contract 1112 by earmarking the chosen samples with Tipp-Ex.
59. Clause 10.4 of the M&W Specification [C5/3754] provides that the number of samples to be provided from each batch and the number of specimens in each sample shall be based on the tonnage of the batch in accordance with the Construction Standard on Carbon Steel Bars for the Reinforcement of Concrete - (CS2:1995) Table 9. Each specimen of rebar shall be 1 m long.
60. CS2: 1995 Table 9 provides that:-

Table 9 Rate of purchaser's tests												
Description	No. of test specimens per batch											
	Class 1				Class 2				Class 3			
	Size of batch	Tensile	Bend	Rebend	Size of batch	Tensile	Bend	Rebend	Size of batch	Tensile	Bend	Rebend
Bar reinforcement nominal size 6 mm - 16 mm	0 - 60 tonnes	3	1	1	0 - 35 tonnes	3	1	1	0 - 35 tonnes	10	1	1
	each additional 60t or part of 60t	1	Nil	Nil	each additional 35t or part of 35t	3	Nil	Nil	each additional 10t or part of 10t	3	Nil	Nil
Bar reinforcement nominal size 20 mm - 32 mm	0 - 80 tonnes	3	1	1	0 - 45 tonnes	3	1	1	0 - 45 tonnes	10	1	1
	each additional 80t or part of 80t	1	Nil	Nil	each additional 45t or part of 45t	3	Nil	Nil	each additional 15t or part of 15t	3	Nil	Nil
Bar reinforcement nominal size exceeding 32 mm	0 - 100 tonnes	3	1	1	0 - 55 tonnes	3	1	1	0 - 55 tonnes	10	1	1
	each additional 100t or part of 100t	1	Nil	Nil	each additional 55t or part of 55t	3	Nil	Nil	each additional 20t or part of 20t	3	1	1



61. After the samples were chosen, Leighton would cut each of the chosen samples into the requisite 1m specimens in preparation for material testing. Leighton's frontline staff would then submit a Steel Test Request ("STR") Form on MTRCL's electronic Material Testing System ("MTS"), containing all the relevant sampling details, for MTRCL's verification.
62. After the submission of the STR Form, Leighton's frontline staff would attach at the end of each 1m specimen an orange tag containing a unique STR "tie number", which corresponded to the STR Form submitted by Leighton's frontline staff. Leighton's frontline staff would subsequently provide me or the IOW involved with these STR "tie numbers" to enable my or the relevant IOW's retrieval of the relevant STR Forms on the MTS system.
63. After receiving these STR "tie numbers" from Leighton, I would log into the MTS on my computer at the Site Office to confirm verification of the relevant STR Form. I would confirm verification if the sampling details contained in the STR Form matched with the sampling I conducted. Once the verification had been confirmed electronically, Leighton would arrange delivery of the specimens to MTRCL's designated laboratory for testing.
64. As far as I am aware, none of the rebars used in Contract 1112 failed the material testing.
65. I was not involved in any material testing for couplers.
66. Insofar as whether MTRCL would inspect and check that only the correct materials were used for the construction of the 3 Stitch Joints, the Shunt Neck Joint, and NAT generally is concerned, I understand that this would have been covered by the formal inspection for rebar fixing, which was carried out by the ConEs.
67. Finally, I would like to mention the following:-
  - (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.

(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. I understand these materials were retrieved by MTRCL's Legal Department, with the assistance with MTRCL's external lawyers, Mayer Brown.

**Dated 2 May 2019**

A handwritten signature in blue ink, consisting of stylized loops and a long horizontal stroke, positioned above a solid horizontal line.

**TANG SIU HANG, TONY**

*I certify that I, Lee Pui Ying Felicia, of Mayer Brown, 16-19/F, Prince's Building, 10 Chater Road, Central, Hong Kong, have interpreted the contents of this witness statement to the person making this witness statement who appeared to understand the same and approved its contents as accurate and made his signature in my presence.*



**Lee Pui Ying Felicia**

**Date: 2 May 2019**