Wednesday, 5 June 2019

(10.01 am)

MR SHIEH: Mr Chairman, Mr Commissioner, I now have Mr Karl Speed as Leighton's next witness.

CHAIRMAN: Yes.

MR KARL ROBERT SPEED (affirmed)

Examination-in-chief by MR SHIEH

MR SHIEH: Good morning, Mr Speed. Welcome to the Commission of Inquiry again.

You have made two witness statements for the purpose of this part of the Inquiry. Can I take you first of all to bundle CC1, page 49.

This is a document entitled, "Fifth witness statement of Karl Speed; do you see that?

A. Correct.

Q. Can you turn to page 71. I believe that is your signature on that page?

A. Yes, it is.

Q. Next, can I ask you to look at bundle CC6, page 3764.

A. I have 3763 here at the moment. 3764?

Q. Sorry, my mistake. 3752. It's my mistake, sorry. 3752.

A. Yes.

Q. That is your sixth witness statement; do you see that?

A. Correct, yes.

Q. Can you turn to page 3763.
A. Yes.
Q. I believe that is your signature on that page?
A. That's correct.
Q. Do you put forward the content of these two statements as your evidence in this part of the Inquiry?
A. Correct.
Q. Thank you. Can I ask you to also turn to page 526 of bundle CC2. You can look at the monitor in front of you. Page 526.

This is an organisation chart.

A. Yes, I see it.
Q. If you look at the blue box on the top, "MTRC", below that you can see Anthony Zervaas, and next to Anthony Zervaas we can see your name --
A. Correct.
Q. -- Karl Speed. And this is the organisation chart as of May 2017, if you look at the top left-hand corner?
A. Yes.
Q. Is this consistent with your understanding of the organisation structure within which you were placed?
A. Yes. I was a general manager for the Hong Kong business.
Q. Right. And you are on the same level as Anthony Zervaas on this organisation chart?

A. Yes, that's the way it's shown.

Q. Thank you very much. You have been through this process before and I'm just reminding you that counsel for other parties and counsel for the Commission would be asking you some questions, and the Chairman and the Commissioner may have their questions for you as well.

A. Yes.

MR SHIEH: After all that, if I wish to, I can ask follow-up questions, so can you remain seated and answer the questions. Thank you.

WITNESS: Thank you.

Examination by MR PENNICOTT

MR PENNICOTT: Mr Speed, good morning --

A. Good morning.

Q. -- again. Mr Shieh has helpfully explained the process, with which I know you are familiar, so I won't go through it again. Thank you very much indeed for coming along to give evidence to the Commission once more.

As we've just heard and as you say in your witness statement, you are the general manager of Leighton, and as I understand it you've been in that post since April 2017?

A. Yes. I think around 24 April.

Q. Yes. I think we pick that up from your earlier witness statement in the first part of the Inquiry.

A. Correct.
Q. And you have general responsibility, as I understand it, for all of Leighton's contracts, certainly in Hong Kong?
A. Yes, in Hong Kong.
Q. So not just the SCL project but all other contracts?
A. All the other projects, yes.
Q. Now, I've just got a number of questions to ask you about.

First of all, can I ask you to look at paragraph 13 of your fifth witness statement, so that's at CC54. CC1, page 54.

A. Okay.
Q. You say there:

"The NAT stitch joints and SNJ [that's the shunt neck joint] were cast as late as possible after completion of backfilling and groundwater recharge, as required by" -- and then you give a drawing reference which I'll call "101A" for short -- "in the index."

Do you see that?

A. Yes.
Q. I've asked this a couple of times of a few witnesses already. Mr Speed, are you able to assist us with this question: when do you know when the two structures either side of the stitch joint have reached a position or a situation where it is, as it were, safe and

permissible to get on to build the stitch joint?

A. Okay.

Q. How does one know that and who makes the decision?

A. I think that decision is made basically by the project. You'd have to go through that detail with them specifically. Obviously we cast the stitch joints late to prevent differential settlement, but the specifics and dates and engineering, you would have to go through with the teams.

Q. But can you help with this to this extent: is it the position that the Leighton structure on the one side and the Gammon-Kaden structure on the other side -- are they being monitored constantly for that settlement so that when they reach a particular, if you like, stabilised state, then the stitch joints can go ahead?

A. You know, I could speculate with the answer, but I would prefer if the right people answer that question.

Q. Right. Who do you think are the right people? I expect there may be somebody from MTR, perhaps, who can come along and tell us, but ...

A. I think probably the engineering manager would be a good person to speak to regarding the specifics at the time.

Q. Mr Holden may know?

A. He possibly may know. I don't know if he was involved at this stage. He was involved obviously in the defect

rectification later.

Q. Yes, he was. I don't think he was involved --

A. I don't know if he was involved specifically around this at the time.

Q. Okay.

A. But it would have been discussed on the project and it would have been agreed to go ahead.

Q. All right.

Then, at paragraph 15 in the same witness statement, you -- we'll just see what you are dealing with first of all. Just above paragraph 14 you have a subheading, "General -- NAT stitch joints"; do you see that?

A. Yes.

Q. Then at paragraph 15 you say:

"The following documents set out the standards and requirements for the rebar fixing and concreting works in the construction of the NAT stitch joints".

Then you set out a series of documents, from (a) to (i), and the one that I was interested in was (g), where you say:

"Lenton (coupler manufacturer/supplier for SCL1111) technical and quality assurance manual ELQ-01 ...", and then you give a reference.

You are not, as I understand it, suggesting that that's a document that Leighton produced and submitted,

are you?

A. I don't think so. I don't think that was a document we produced.

Q. No. All the others I can well see the relevance of and the materiality of insofar as Leighton is concerned, but there was never any question, as I understand it, of Lenton couplers being used by Leighton; it was entirely BOSA couplers?

A. That's correct.

Q. Okay.

Now, in paragraph 16 of the same statement, you say:

"The NAT be stitch joints were constructed approximately nine months after the construction of the adjacent bays on the SCL1112 side of the NSL rail tunnel and EWL trough structure. The sequence of construction for the NAT stitch joints (with the party responsible for each step listed in brackets) should have been as follows".

Then can I ask you about, first of all, (b), "scabbling of construction joint surfaces". Mr Speed, do you mean by that the chipping away and removal of concrete to expose the couplers?

A. No, just removing a thin layer of concrete to prepare the surface, scabbling, not the chipping-out for the couplers, no.

Q. Therefore, if that's right, presumably there is a step missing here, is there? That is --

A. Okay. Maybe it does include it, but scabbling itself can refer to two items. Maybe it does include that as well, by Hills.

Q. Right. But as we now understand it -- I don't know whether you've had an opportunity of looking at it -- from Mr Joe Tam's recent witness statement, what happened was that on the Leighton side, Hills, as we understand his statement, Hills, together with some Leighton direct labour, removed and chipped away the concrete on the Leighton side to expose the couplers. Have you seen this?

A. I've not been through the witness statement, but the method is clear, yes.

Q. Right. But on the Gammon side, we are told by Mr Tam that the Gammon-Kaden Joint Venture itself, or one of their sub-contractors, I know not, was responsible for removing and chipping away the concrete on the Gammon side to expose the Lenton couplers on that side. Presumably you accept that that's what Mr Tam says?

A. That's what he says, that's what my understanding is. Not unusual.

Q. All right.

Then you say at (c) here:

"inspection of couplers installed into outer reinforced concrete structure on both sides of the joint to confirm the number is adequate, the diameter, alignment and spacing is correct and the thread appears undamaged (Wing & Kwong)".

So your position, as I understand, your understanding is that it's the sub-contractor, is it, that has to do that inspection, as opposed to Leighton itself?

A. We employed a specialist sub-contractor to do the reinforcement fixing works for the project.

Q. Yes. But let's suppose -- obviously, the sub-contractor, as a matter of practicality, before he starts doing his rebar fixing, certainly may take a look at those couplers on both sides. Presumably, if he finds a problem, then you would expect him to refer that problem back to Leighton and say --

A. Correct.

Q. You wouldn't expect him to put right any problems, any damage, any misaligned couplers, any missing couplers; that was something that you should have referenced to Leighton to put right?

A. If there was damage or something else, possibly a site instruction would be issued, to rectify it or make good in some way.

Q. Okay. Moving on, paragraph 17 of your witness statement -- you say that:

"In summary, the procedure required to install rebar for the NAT stitch joints, as detailed in paragraph 16.d, should have been as follows".

And again you've set out the steps that ought to have been taken to install the rebar for the NAT stitch joints; do you see that?

A. Correct.

Q. Can I just confirm with you that at (e) you say:

"the bottom layers of reinforcement are inspected by Leighton's engineers and the MTR's engineers".

And then at (i) you say:

"the top reinforcement is inspected by Leighton's engineers and MTR's engineers."

What you don't say, but I assume you accept, is that before those inspections take place, RISC forms should be issued?

A. Yes.

Q. As I think you are now aware, in relation to the original defective stitch joints, no such RISC forms were issued?

A. That's my understanding, yes.

CHAIRMAN: Sorry, on this question of RISC forms, I was asking a few questions yesterday to try to understand

the dynamics. As a layperson, if I suggested the following, can you tell me where I fall down, where this system would be wrong?

You have the Leighton engineer on site, and he is informed by his sub-contractor, for example the bar fixers, that a particular bay is now ready for inspection. So he or she telephones the MTR office and says, "Can we do an inspection this afternoon, 3 o'clock?" The MTR office on the telephone says, "Yes". No record kept of that. They meet, and both are carrying small electronic tablet-type items which are already pre-set. They look at the bay, they check everything, ding-dong, ding-dong, technical language, okay, is used, all done, and they are happy, and so you get the final tick or whatever the software allows. And on site, at that moment in time, the word is given, "Yes, let's proceed with the concrete, or preparation for the concrete pour."

Now, everybody goes away. There's been no preparation of documents to set this up; it's all just done by telephone, and the inspection is done, and that's gone out and it's now settled in the hard disks, or whatever you call it, of various computers, including, for example, government, if that was the case.

What have I missed there?

A. Obviously, that's different to what the current contract is, the current system.

CHAIRMAN: I know. I'm talking about --

A. The system you were describing is -- since we've been dealing with these issues, we've been -- we have reviewed our system, at Leighton, and how we can enhance our systems to make sure this doesn't happen again. We've certainly spent a lot of time and effort looking at how we can simplify our tools, how we can speed up the process, how we can use digitalisation and tools going forward, and also to capture this information realtime and actually -- so it doesn't cause any unnecessary progress delays to the project.

That system is basically for us, it would be implemented in the third and fourth quarter in terms of that system you are describing. That would be the way forward for the industry, the construction industry in general. You've seen reports, Construction 2.0 with the Hong Kong government, improving cost, time and quality, and this is an area of that that we need to look at as an industry as well, to go forward. So that is something useful that will come out of, probably, this Inquiry, in terms of processes.

CHAIRMAN: Thank you very much.

MR PENNICOTT: Mr Speed, back to your witness statement, please. At paragraph 19, you make reference to the fact that the Gammon-Kaden Joint Venture used Lenton brand couplers with a tapered thread. You then say, it seems to me logically, that the rebar that was therefore required and should have been used to connect the rebar to the couplers installed on the Gammon side of the NSL stitch joint 1111/1112 and EWL stitch joint.

If you then go to paragraph 29 of your witness statement, you have made reference to some interface meetings that we have looked at with at least two other witnesses so far, one more to come at least, and then you go on to say at paragraph 29:

"T40 is a reference to rebar with a 40 millimetre nominal bar diameter. The couplers installed in the NSL stitch joint ... and EWL stitch joint were for rebar under 40 millimetre nominal bar diameter. Therefore, according to the minutes of the interface meeting, the couplers on the [Gammon] side of the interface joints should have been Lenton."

Then you say at paragraph 30:

"Leighton's records show that only BOSA (parallel) threaded rebar was ordered for the NAT stitch joints. There was no Lenton (tapered) threaded rebar ordered for the initial construction of the NAT stitch joints."

As I understand it, putting those three paragraphs together, Mr Speed, you accept that responsibility for not having ordered tapered threaded rebar to insert and screw into the Lenton couplers is that of Leighton?

A. Lenton couplers should have been used at the stitch joints, yes, correct.

Q. If Lenton couplers were used on the Gammon side of the stitch joint, it was Leighton's responsibility to ensure that tapered threaded rebar was ordered and used to insert into those couplers?

A. That's correct, with the assistance of our specialist sub-contractor.

Q. What assistance would they be able to give you if they didn't know that Lenton couplers were being used on that side of the stitch joint?

A. I don't know whether or not they knew or not, Mr Pennicott.

Q. On the assumption that they did not know until it was too late, on one view, what assistance could they give you?

A. The sub-contractor was responsible for calling off materials required for execution of the works. We were responsible for ordering those materials and the supply.

Q. All right. Could I ask you, please, to go to paragraph 36 of your witness statement. Here, at the

top of the page, that's CC60, you are dealing with the defective work/design issue, and at paragraph 36 you say:

"Leighton investigated reports of water seepage and concrete cracking at two of the NAT stitch joints ... for the purpose of identifying any defects and then rectifying them", and so forth.

A. Yes.

Q. We know that that investigation took place largely January/February 2018?

A. Yes.

Q. You are the general manager of Hong Kong operations. Was this actually a matter that was reported to you at the time?

A. It was. Probably I think sometime in January it got reported to myself.

Q. So I assume, on that basis, that it was regarded by those who reported it to you that this was a sufficiently serious matter that you, the general manager, should be advised of it?

A. Yes.

Q. And did indeed you share that view, that it was a sufficiently serious matter and it was correct that you should be advised of it?

A. Defects happen, you know, in construction projects,

across it. The quantum associated with the rectification works which perhaps at the start we didn't know the full estimate of the cost, but then it did rise in terms of making the repair, so the cost became substantial.

Q. So do you think it was referred to you, as the general manager, because it was perceived to have potentially significant costs implications, as opposed to the fact that these were pretty serious defects in themselves, that is rebar not connected to couplers?

A. I think both, and also, you know, the focus on rectifying the defect so that obviously we can get trains running as soon as possible, the time required through the defects. So I think it encompassed those elements. But the primary focus was to rectify and get the works completed as soon as possible.

Q. Right. Were you involved at all in the decision-making process that must have taken place to do that, as we know, pretty quickly, just to get on with it and get it done --

A. Yes, I was. Yes.

Q. And so your advice was sought to see whether you agreed with just getting on with it and getting it sorted as quickly as possible?

A. Correct.

Q. And you obviously agreed with that approach?
A. Yes.
COMMISSIONER HANSFORD: Can I ask -- actually, in your paragraph 37, in your final sentence, you say:
"... the water seepage occurred as a result of the failure of the installed permanent waterproofing measures."
That was your understanding, was it? That was what --
MR PENNICOTT: Sorry, this is at paragraph 37, Mr Speed.
COMMISSIONER HANSFORD: Yes, paragraph 37, the final sentence:
"... the water seepage occurred as a result of the failure of the installed permanent waterproofing measures."
Was that your understanding?
MR PENNICOTT: It's the internal stitch joint.
COMMISSIONER HANSFORD: This is the internal stitch joint, yes.
A. I think that was the initial findings from it, the initial findings.
COMMISSIONER HANSFORD: So the initial finding was that it was a waterproofing failure?
A. I think so, but very soon thereafter it became apparent that -- the issue with the couplers.

COMMISSIONER HANSFORD: Was that in addition to the waterproof failure or rather than the waterproofing --

A. Rather than the waterproofing.

MR PENNICOTT: Sir, this is a matter that I am going to discuss with Mr Holden.

COMMISSIONER HANSFORD: That's fine.

MR PENNICOTT: Because he was involved in the investigations.

A. Yes, he was.

COMMISSIONER HANSFORD: That's absolutely fine, but I was just checking Mr Speed's understanding.

A. That was when it was originally brought that it was a water seepage issue coming to the project, and then it transpired into more than that.

COMMISSIONER HANSFORD: Yes. Thank you.

MR PENNICOTT: Indeed I think -- would this be fair, Mr Speed -- your paragraph 37 is really reporting what Mr Holden told you?

A. It is, yes.

MR PENNICOTT: Right. So I was going to go to the source, as it were, Mr Holden.

COMMISSIONER HANSFORD: I understand that, of course, but I wanted to check Mr Speed's understanding of what -- at the time.

A. Yes, sure.

MR PENNICOTT: Mr Speed, moving on to paragraph 39 of your witness statement, under the heading, "Supervision, inspection and records", you say there:

"Leighton has disclosed to the Commission the organisational charts for Leighton ... The members of Leighton's construction engineering team who were involved in supervising the construction of the NAT stitch joints are Henry Lai [who we have already heard from] and Joe Tam [who we will be hearing from]."

I have asked this question to Mr Kitching, Mr Speed. I make no apologies for repeating it. To your understanding, who is responsible, in the Leighton organisation, and at what level, for ensuring that any particular area of the construction site, such as what we've got here, is first of all sufficiently resourced? By that I mean sufficiently resourced with personnel. Whose decision is that?

A. I suppose, you know, to answer generally -- obviously, I wasn't involved at the project from the early start, but in a general situation that, you know, you have various different levels of management. You know, sometimes an engineer may come to his direct-line manager and says, "I'm struggling with the volume of work", et cetera. That manager would then review. If he was in agreement, he would then rise up through the

different levels to agree.

In terms of escalation, our project directors would liaise with the operational managers and also then with our HR managers, general manager, to review what resources can be provided or recruited for the job. So it's fairly standard.

Q. Because we have heard some evidence, certainly from Henry Lai and another witness perhaps, that they were overworked, overstretched, and this was one of the reasons being put forward for the non-issuing and submission of the RISC forms, and that's why I'm asking the question as to --

A. I suppose, since I've been the general manager, I'm not aware of any restrictions on -- if people have required staff to do anything, structurally there's no restrictions in place on that.

Q. But I think what you are saying is I suppose it depends on the acuteness of the problem. If it's very significant, then it could find its way all the way up to the project director or the operations manager?

A. Yes, for sure, we're recruiting, yes.

Q. For recruiting, yes, to say, "We actually need another engineer on this area of the site and we need someone quickly"?

A. Yes, and our operation managers across our business will

re-allocate resources to the needs required. We have a lot of resource in the business.

CHAIRMAN: Would you agree -- this is a psychological question more than an engineering question -- that in most professional organisations, such as the one that you are managing at the moment, the professional officers in it are loath perhaps to go to their superiors and say, "I can't manage"? It's a sign of weakness and none of us like to give that sign of weakness. I'm not suggesting that's a fault, by the way. I'm just saying one of the factors that sometimes you have to take into account is just how people behave.

A. I can't really answer the question.

CHAIRMAN: No.

A. It's sort of vague, you know, for that. There is human nature. But we are fortunate in Hong Kong, with our management team, with the vicinity of our projects, to get to know them well, to get to know the people, and also people are busy on projects but also to provide resource as required, to address needs from time to time. You know, if one project gets busy, we may look at whatever resourcing we can provide for that. It's how the industry works.

CHAIRMAN: That answers the question, because what you are saying is yes, if that sort of reluctance to express

a sign of incapability to deal with the pressures should be there, you are dealing with people on a day-by-day basis, you move where you feel resources are needed, so you don't have to deal with that problem openly because you are tackling it by making sure resources are available.

A. You know, Hong Kong is a very small place, so we can actually -- we know a lot what is happening from a staffing perspective as well. You know, if some of our projects are coming to an end and there's a big ramp-up for completion, we will look at what resources that can be transferred to those projects to help it finish, because we understand the needs and requirements of that, at those times.

But there's no specific answer specifically, you know.

MR PENNICOTT: Yes. And a sort of related question, Mr Speed. In terms of the experience and the qualifications of the personnel, who is responsible for looking at that and saying, "Yes, we've got somebody appropriately qualified, appropriately experienced, to carry out routine rebar inspections, hold-point rebar inspections"? Who looks at that?

A. Ultimately, our project directors are responsible for the projects and what's required, from all respects.

CHAIRMAN: And could I ask just one thing: as far as fairly new, young engineers are concerned, is there any formal training on, for example, what their inspections should seek to reveal and how they should go about the work of inspecting?

A. I suppose, when we talk about training -- obviously, Leighton have comprehensive training programmes. We have training in the classroom, we have training on site with different people. You know, I am aware that there was quality management training at the project. I don't know the specifics of whether or not -- you know, the specific training. But I am aware there was training for these individuals.

MR PENNICOTT: Indeed, we have seen the process by which Leighton takes on graduate engineers and then they become engineers and senior engineers as they presumably acquire experience.

A. Yes.

Q. I mean, when a graduate engineer joins you, is that for a fixed period as a graduate engineer?

A. We have some graduates who come to us straight from college, and some may join a few years later. We do have a specific graduate training programme, I can't remember the exact numbers, but over the last few years it's been 40 or 50 graduates per year. I take part in

some of the leadership training days and we have structured programmes around our graduates, to help them through. And also we do rotation with different consultancies in respect of design as well. So there are processes, you know, how we train the graduates.

Q. And the graduate programme will last a couple of years or something of that nature?

A. I'm not sure if it's two or three years but it's that sort of order.

COMMISSIONER HANSFORD: Do they proceed to become senior engineers through merit or does that happen through the length of time they've been a graduate engineer?

A. I think it's -- obviously experience is key and also years of service is also -- those considerations. So both of those are factors. You know, you won't be a senior engineer after two months, even if ...

COMMISSIONER HANSFORD: Both of those relate to time served, don't they, experience and --

A. And also performance as well.

COMMISSIONER HANSFORD: That's what I'm trying to understand, to what extent does performance feature in the decisions to promote a senior engineer.

A. It's also a consideration, yes.

MR PENNICOTT: All right.

Now, in paragraph 44 of your witness statement,

Mr Speed, you say -- and this is still in the section that's dealing with supervision, inspection and records:

"Leighton has reviewed its records relating to the supervision and inspection of the rebar fixing and concreting works for the NAT stitch joints. Leighton has found that:

(a) physical inspections took place regarding the inspection and approval process for the NAT stitch joints".

In relation to that, you simply rely on Mr Lai's witness statement, as I understand it; is that right?

A. That's correct, yes.

Q. Then you say:

"(b) while RISC forms were generated for pre-pour and as-built survey, no RISC forms were generated for the rebar fixing and pre-pour check inspections for the original construction works".

Which is a point we've already talked about. Then you say this:

"(c) site diary entries ... record the rebar fixing, pre-pour work and the concrete pours for the original construction work on the NAT stitch joints".

Just holding that thought with us, could I ask you, please, to look at paragraph 16(c) of your sixth witness statement, which will be at page CC6/3754, where you

expand upon, a little bit at least, the sentence we have just looked at, and you say this:

"other documentary records" -- and you repeat this paragraph a number of times in this witness statement -- "evidence that Leighton and MTR supervised the rebar fixing and pre-pour works at the NAT. For example, site diary entries record all of the rebar fixing, pre-pour work and the concrete pours for the NAT. These are consistent [you say] with, and support, the conclusion that all formal inspections took place and that Leighton and MTR supervised and approved the works and authorised the pouring of concrete."

Can I first of all suggest to you -- first of all, can I ask you: have you looked at the site diaries at all?

A. I've seen site diaries, yes.

Q. It is right that they record that rebar work is being done and that concrete pouring is being done, but they do not, do they, in any sense, make any record of the fact that an inspection has taken place, whether formal or informal?

A. I suppose if you look at, you know, concrete pouring, to get to concrete pouring would mean that you would have had to go beyond the hold point for the reinforcement fixing, and by definition, the approval had been given,

which is ...

Q. But that's no more than saying, well, the concrete is there, therefore it must have been -- the rebar must have been inspected, the pre-pour check must have been done, because the concrete is there. I mean, there's nothing in the diaries, is there --

A. My understanding is that the formal inspections took place across the project.

Q. And we've got a lot of people looking at site diaries and photographs and so forth, but they don't actually show you, they don't record the fact, that the inspections, whether informal or formal, have taken place?

A. I have to review, yes.

CHAIRMAN: Could you just tell, for my assistance -- site diaries, can you tell me something about them? What role do they play? Who maintains them?

A. From my understanding, MTRC generally prepares the site diaries. They would provide them to ourselves for review and then they would be signed and passed back. That's the normal sort of process.

CHAIRMAN: Okay. So MTR, they commence the diary, and who puts material into it? It's MTR staff, is it?

A. My understanding, it's MTRC.

CHAIRMAN: So they make entries related to concrete pours,

inspections maybe, if that's -- or whatever's happening of importance, and sets out a chronology of events on site?

A. Correct. Yes, correct, on a daily basis.

CHAIRMAN: And that is shown to the contractor, in your case Leighton, and there would be countersignatures or something of that --

A. Something of that order, yes.

CHAIRMAN: Thank you.

COMMISSIONER HANSFORD: So there's no requirement then, Mr Speed, for Leighton engineers or Leighton foremen to produce their own diaries?

A. I'm not aware of a contractual requirement for their own personal diaries.

COMMISSIONER HANSFORD: I meant the company requires.

A. We don't have a company requirement for all staff to keep all diaries, no.

COMMISSIONER HANSFORD: Right.

MR PENNICOTT: Sir, I wasn't proposing to go into the matter with Mr Speed, but of course one mustn't lose sight of the acceptance letters and the log book, which is a potentially important matter.

COMMISSIONER HANSFORD: Yes.

MR PENNICOTT: We can put up on the screen for you, sir, since you've asked the question, CC6/3866.19.

I understand this might be a typical example of the site diary. Mr Speed can have a look at it as well.

I don't know what date that was -- 30 March 2016, the top right-hand corner. It's recorded "labour and plant", and if you go to the right, please -- sorry, the other way, left -- it's a general -- we can see at number 7, it's headed "NAT".

If we scroll down, somebody has helpfully outlined in red perhaps the relevant part of this particular diary on this day, "Rebar fixing of base slab at bay 1 for NSL Tunnel (Wing Kwong)", and one sees that, and references also to concrete being poured.

COMMISSIONER HANSFORD: But the diaries don't record inspections?

MR PENNICOTT: We have not been able to find any diary that says "rebar inspected by X" or Y, no, sir.

COMMISSIONER HANSFORD: Or hold points passed?

MR PENNICOTT: No, sir, as far as I'm aware. I don't suppose we've looked at every single diary.

COMMISSIONER HANSFORD: No, I just wondered if, from what you have seen, that was the case.

MR PENNICOTT: In many ways, unfortunately not.

COMMISSIONER HANSFORD: Okay.

CHAIRMAN: Even though it doesn't confirm actual inspections, it confirms that MTR, and presumably if

Leighton countersigns, are aware of day-by-day individual building of different kinds?

MR PENNICOTT: Indeed, sir, yes, that's right.

CHAIRMAN: Which would imply that they -- maybe not inspect at such -- but have knowledge because they watch it happening and are aware of it, et cetera.

MR PENNICOTT: Yes, and it's just a question of, as Mr Speed has indicated, what weight you attach to that and whether you can make the inferences that inspections would have taken place.

CHAIRMAN: Yes.

MR PENNICOTT: Sorry, we didn't look at the bottom of the page, just to see the signatures, because that's a point that's of relevance.

You can see, sir, that this is prepared by the IOW, that's of the MTR, signed by either the construction manager or the senior construction manager, on the right-hand side. That's MTR. Endorsed by the SIOW, that's Kenneth Kong, that's the MTR. And then countersigned by Leighton in the bottom right-hand corner this time -- somebody has signed it on behalf of Mr Rawsthorne. I know not who.

Can we then go to paragraph 45 of your witness statement, Mr Speed, still in the same section of supervision, inspection and records. In the second

sentence you say this:

"Leighton ..."

And you've got a footnote there to qualify what you mean by "Leighton":

"This refers to the knowledge of Leighton's management on the project and Leighton's senior management."

"Leighton was not aware that RISC forms had not been completed for the rebar fixing check and pre-pour check for original construction of the NAT stitch joints."

Now, when you say Leighton's management on the project and Leighton's senior management, who precisely are you referring to?

A. So I suppose, if I take Leighton's senior management, I refer to our sort of corporate management, you know, general manager, operation managers, et cetera. And in terms of project manager, on the project management, the project director, you know, in terms of management -- I'm not sure how far that goes down, actually, but the project director for sure.

Q. Right. So let me put it slightly differently. The engineer on the ground, so far as the NAT is concerned, is Henry Lai?

A. Correct.

Q. We know that he issued very few RISC forms, and

certainly no RISC forms in relation to the original stitch joints; okay?

A. (Nodded head).

Q. Who, in the hierarchy, should have known that no RISC forms had been issued?

A. I suppose what I've said in my -- obviously, he was reporting in to Joe Tam at the time.

Q. Yes.

A. But I don't have that level of detail. But I think the challenge -- you know, what we've said in the second half of the management system was that -- our system tracked RISC forms once they had been created in draft.

Q. Sure.

A. When the system, you know, was I suppose changed in some way that allowed us after formal inspections to continue without a RISC form, that's what created difficulty in terms of our management system, and that's why it was not picked up by our quality management team on the project as well. That's what deficiency was created.

Q. Let me put it rather more bluntly: do you think Joe Tam ought to have known that these RISC forms were not issued?

A. I wasn't involved in that level of detail. You know, to be honest, I don't know the answer to that.

COMMISSIONER HANSFORD: The agreement with MTR to proceed on

WhatsApp messages was effectively a work around the system, wasn't it? Rather than using the system, a workaround had been found?

A. I think the system was cumbersome and I think they found some technology to work around. Obviously, it's not a structured process, but that's how it was operating on the project, you know, between us and MTRC.

COMMISSIONER HANSFORD: But it wasn't -- I was going to use the word "foolproof" -- but it wasn't secure?

A. No, correct, it wasn't secure. But as I said earlier, we are now basically establishing the new tools and the mobile platforms so that it can be done at the face, can be uploaded. So that's where we need to head to.

COMMISSIONER HANSFORD: Indeed.

MR PENNICOTT: Mr Speed, can I go on to paragraph 46 of your witness statement, a slightly different topic, but it's another "what should have happened" question, I'm afraid.

A. Okay.

Q. You make reference there, again, to Mr Henry Lai being the engineer responsible for the ordering of the rebar and couplers, and so forth. Then you say, correctly, it seems to me:

"It appears that certain members of Leighton's construction engineering team were aware that

Gammon-Kaden ... was using Lenton brand couplers as a result of attending interface meetings with [Gammon-Kaden]. However, this information was not communicated to Henry Lai."

Mr Speed, can you help us: what should the persons, the people, who attended those interface meetings, have done to communicate to those that needed to know what was discussed at those meetings?

A. It could be done in a number of ways. Obviously, there's minutes from the interface meeting. Within our systems, we have a document management system where, if you are the manager of an area, you would copy that to the relevant persons part of your team. That could be one way. The second way could be verbal communication as well. There's a few ways it could have been done.

In this case, you know, it appears that the information wasn't communicated to Henry.

Q. Okay. And unless there was some form of specific delegation, would you expect the most senior person at those meetings to be responsible for passing that information on, in the way you've described?

A. There may be a number of similar level at the meeting from Leighton, I don't know the exact persons, but if for example Joe Tam was at the meeting, he would be passing that to his team. If Joe Tam didn't attend and

someone like Jim Wong attended, then it should also be distributed and communicated in terms of the area of management.

Q. Okay. Mr Speed, in paragraphs 58 through to 67 of your witness statement, you deal with non-compliance issues at the shunt neck joint; do you see that?

A. Yes.

Q. In relation to the questions that I've been discussing with you regarding the RISC form and the ordering of the tapered threaded rebar, I assume that your answers would be the same in relation to the shunt neck as they were in relation to the stitch joints?

A. Correct.

Q. However, can I just ask you about this. In paragraph 60 you say:

"On 15 February ..., [Gammon] confirmed to Leighton that a construction joint should be built at the shunt neck joint ..."

Do you see that, that a construction joint should be built?

A. Yes.

Q. Then you make reference to a request for information document, which I'm going to be discussing with Mr Tam later. Then you say at 62:

"[Gammon] built a construction joint using couplers

on their side of the interface, and did not leave a recess for the construction of a stitch joint. In that context, and following MTR's direction, Leighton should have built a construction joint with continuous rebar connection using the couplers installed by [Gammon]."

Do you see that?

A. Yes.

Q. Then, at paragraph 80, you say:

"Atkins was the permanent works designer of the SNJ for both contract 1111 and contract 1112. There was a mismatch between the detailing of the SNJ under contract 1111 and contract 1112. It appears as though Atkins deleted the requirement for the stitch joint on the approved drawings for contract 1111 but did not update the same on the drawings for contract 1112."

Can I ask you to confirm -- you are not making a criticism of Atkins there, are you, Mr Speed, or perhaps you are? I'm not sure.

A. I think we are just stating the fact, actually. We're not ...

Q. So you are not seeking to criticise Atkins for -- I mean, Leighton knew it was a construction joint that had to be built, not a stitch joint?

A. I'm not sure at the original time actually whether we

knew at that moment, until the clarification.

Q. Well, agreed. From the time of the RFI back in May 2016, as you seem to acknowledge, Leighton knew that it was a construction joint that needed to be built, not a stitch joint?

A. Correct.

Q. Okay. So whether or not the drawings concerned were updated, it was known that it was a construction joint that had to be built?

A. It would obviously help if drawings are updated regularly, so it ought to have been communicated to all the teams as well.

Q. All right.

Just a couple of other topics. Again, it's really a question of whether you know certain general procedures concerned with this topic, Mr Speed. Mr Henry Lai has told us that following the discovery of the defects in the stitch joint, he went through what he described as an internal survey or appraisal. And Mr Kitching told us that following that survey or appraisal, Mr Lai was put on what Mr Kitching described as an improvement scheme.

Are you familiar with the process of these internal appraisals and putting people on improvement schemes, Mr Speed?

A. I think in terms of our business, we have a "Just Culture" model that we follow as a business, so that we treat people fairly and we go through that model. If we have, you know, for example, a safety issue, we would review that model to see whether or not it was unintentional and whether or not someone needs additional training or whatever. That's the sort of process we would go through.

Q. All right. What type of circumstances would give rise to that sort of appraisal survey taking place?

A. As I said, maybe an example would be a safety issue -- a safety issue could be an example of that, just to review that to see whether or not -- you know, where the action should lie, what's required.

Q. Would you expect that appraisal survey process to be recorded in writing so that there was some note of it on the file, as it were?

A. I think, from what I understand, this was done informally. Often, you know, we are not there to create long reports. Some of these things are sitting with their direct managers to go through it and to review.

Q. So the answer to my question is you wouldn't necessarily expect it to be recorded in writing?

A. Sometimes, sometimes not.

Q. Sometimes, sometimes not. Okay.

Just so the Commission is aware of what you're talking about when you use the words "Just Culture", could we look at CC10/6545.5, please.

We've been told -- it's not on the transcript but just in an email from your solicitors, Mr Speed -- that this is a document that, as it were, Mr Lai was taken through during this internal appraisal, as I call it. Do you see that?

A. Yes.

Q. This is what you're referring to when you say the "Just Culture" process?

A. Yes.

Q. These are the sorts of questions that, therefore, Mr Lai would have been asked?

A. I wasn't at the "Just Culture" discussion --

Q. No, but you would have expected --

A. -- but this is the model, yes.

Q. What you would have expected him to have been asked?

A. Yes.

Q. If we scroll down to the bottom, please -- the options at the bottom seem to be five. The worst it gets, you will be terminated, and the better, "I've learned".

We have been told, as I say, by Mr Kitching that an improvement scheme was adopted for Mr Lai, so probably that's somewhere around about, "I need

training" or "I need coaching".

A. Yes, in that sort of order.

Q. All right.

COMMISSIONER HANSFORD: Would someone going through this process affect their promotion path?

A. Yes, it's possible. I think you are referring to the promotion of Henry Lai from engineer to senior engineer, are you?

COMMISSIONER HANSFORD: Generally actually, but --

A. Yes, of course. It would be taken into consideration, yes.

MR PENNICOTT: Sir, just -- this is not for you, Mr Speed, but you can obviously listen. Sir, we've been informed by those instructing Mr Shieh that there is or there are no documents relating to Mr Lai's survey and appraisal, and given what Mr Speed has just said I'm not proposing to press that any further. So it will rest where it is.

CHAIRMAN: Yes.

COMMISSIONER HANSFORD: Yes.

MR PENNICOTT: Next, Mr Speed, in your sixth witness statement, that's the second one for the purposes of this hearing, at page 3761, you have a section that deals with "Testing of rebar"; do you see that?

A. Yes.

Q. At paragraph 60 you say:

"Leighton has reviewed its records and found that a small percentage (approximately 7 per cent) of rebar delivered to site was not tested by a HOKLAS certified laboratory."

Then you give some figures. Presumably, that's an exercise that somebody has carried out for you, Mr Speed, rather than your exercise?

A. Yes, that's a reconciliation of the actual HOKLAS certified testing.

Q. Okay.

A. But, as we say in the first paragraph, 100 per cent of the testing by the manufacturers was carried out.

Q. Yes. I don't know whether you can help with this, but from my reading of the various witness statements that Leighton have submitted to the Commission, we already know that Henry Lai told us that, in relation to the NAT, there were 159 batches of rebar, of which 103 were tested and 56 were not. Mr Alan Yeung has told us -- or will tell us, I imagine, if his witness statement is correct -- that two batches were not tested on the SAT. And Mr Ronald Leung will tell us that some batches of rebar were not tested, but he doesn't give a figure.

Would your 7 per cent figure, do you know, Mr Speed, as it were, take into account all of these points?

A. It takes into account -- this is the overall number for

the project.

Q. So on that basis, it probably does take into account --

A. It does. It's a small percentage.

Q. So that is the whole project -- you are not just talking about the NAT, SAT and the HHS -- you are talking about literally the whole project?

A. The whole project, yes.

Q. I think lastly, Mr Speed: do you know what the current position is with regard to the submission of as-built drawings on contract 1112?

A. My teams are working on it, but you would have to go through the details with them. You know, I don't know the current status.

Q. You don't know the current status?

A. No.

MR PENNICOTT: All right. Thank you very much.

Sir, I have no further questions.

COMMISSIONER HANSFORD: I have one at this point, if I may.

In the first witness statement, your paragraph 90, relates to rectification works proposals on the shunt neck joint.

A. Yes.

COMMISSIONER HANSFORD: I think in paragraph 90 you effectively describe to us a game of tennis, where one person knocks the ball over the net and then somebody

else knocks it back.

So, in May 2018, you sent the ball over MTR's way. On 31 December 2018, it came back your way. And on 11 February 2019, you send it back to them. And here we are in June.

A. I think, from what I understand, just speaking briefly with my team earlier, we now have a way forward on this to resolve it, just come in.

COMMISSIONER HANSFORD: Ah.

A. I don't know the details but I think there's something -- a proposed way forward now, to rectify.

COMMISSIONER HANSFORD: All right. We'll hear that from somebody, presumably.

A. Yes, perhaps Will Holden who's coming along next.

COMMISSIONER HANSFORD: We will ask Mr Holden.

MR PENNICOTT: Sir, if it has been taken forward and if there is documentation, then I would readily expect that documentation to be disclosed either by Leighton or by MTR, and/or, to the extent they are involved, the government. I'm sure somebody will disclose the documents to us.

COMMISSIONER HANSFORD: I merely observe that the gap between the ball coming from one direction to the other seems to be rather long.

MR PENNICOTT: Yes, sir.

A. Yes.

MR PENNICOTT: Thank you very much. Thanks, Mr Speed.

WITNESS: Thank you.

Cross-examination by MR TSOI

MR TSOI: Mr Speed, I act for the rebar fixers, Wing & Kwong. I just have one issue to clarify with you.

Can I take you to paragraph 26 of your fifth witness statement, which we can find at page CC59. There you say:

"The use of couplers for the construction of the NAT stitch joints is detailed on the working drawings. The drawings only indicated the diameter and spacing of the rebar but did not indicate the requirement to suit the type of couplers that should be used."

Do you see that?

A. I see that, yes.

Q. I think you repeat the same thing for the shunt neck joint at paragraph 71. Do you see that?

A. Yes.

Q. In answering the questions to my learned senior, you said that when ordering the materials, Leighton engineers would need assistance from the sub-contractor. Do you remember answering that?

A. Correct.

Q. One of the answers you gave was this:

"The sub-contractor was responsible for calling off materials required for execution of the works. We were responsible for ordering those materials and the supply."

Do you remember answering that?

A. I do, yes.

Q. Now, do you or do you not know -- and if you do not know, please do tell us -- that when the rebar fixers request for the rebars or the couplers, they do not specify the type of threads for the rebars or the couplers?

A. Can you repeat your question, sorry?

Q. The rebar fixers, when they request for materials from Leighton to do the rebar works, they do not specify the exact type of couplers or the rebars. So the threads of the rebar, so whether it was a Lenton type or the BOSA type, they don't in fact say that when they request the materials. Do you know that or do you not know that?

A. They were Lenton couplers at the location.

Q. That's right, but when the rebar fixers make the request to Leighton for materials --

A. You say they didn't request the Lenton threaded rebar?

Q. They do not need to, because they don't. They do not need to say, "We need Lenton rebars"?

A. No, but they do, because they are Lenton couplers.

Q. I think you are slightly confused. As you say, your engineers, Leighton themselves, do not know what type of couplers and rebars were to be used, as you say in paragraph 26, "The drawings only indicated the diameter and spacing of the rebar"; do you see that?

A. Yes, I see that.

Q. So the drawings do not show the type of couplers used?

A. But Wing & Kwong were the specialist steel fixer responsible for the execution of the works, which included the connection to the Lenton couplers.

Q. No, I'm talking about the ordering of the materials. So, when it was ordered, according to the working drawings Leighton had, Leighton did not know the type of couplers or the type of the rebars in terms of the threads?

A. Can you say that again, please?

Q. In your paragraph 26, as you say there, the drawings that the engineers were using, the engineers of Leighton, "The drawings only indicated the diameter and the spacing of the rebar but did not indicate the requirement to suit the type of couplers that should be used"; do you see that?

A. That's correct, yes.

Q. So that's the working drawing that Leighton was working with?

A. That's the drawings, yes.
Q. So your suggestion is that the Leighton engineer would not know from the working drawing about the need to use tapered rebars?
A. But the calling off of material isn't purely a function of drawings. It's a function of the site inspection, as you're aware.
Q. Exactly. That's what I'm asking. You say the Leighton engineer would not know about the tapered rebars; is that right?
A. No, I didn't say that. I was referring to your role as a specialist sub-contractor.
Q. No, I'm talking about your paragraph 26, because you are saying Leighton would be using these working drawings. Do you see that?
A. What I'm saying -- when Wing & Kwong, our specialist steel fixing contractor, calls off materials, they would be going to the site, they would be doing inspection, they would be doing the measuring. That is your role as the specialist steel fixing contractor.
Q. Yes, but please answer my question. At paragraph 26, aren't you saying to the Commission that the Leighton engineer looking at the working drawings would not know the type of couplers or the type of the rebars that would be used, in terms of the threads? That's what you

are saying; right?

A. No, I'm saying that the working drawings didn't show the type of coupler.

Q. Right, and those were the working drawings used by the engineer of Leighton?

A. They are the working drawings, yes.

Q. Used by Leighton engineers; yes?

A. They are the working drawings used by the project.

Q. My question is -- if you do not know, please say you do not know -- when in fact the rebar fixers make an order request to Leighton, to your engineer, they do not specify the type of threads for the rebars or the couplers? Do you know that or do you not know that?

A. I am the general manager of the business. I don't know how you ordered the materials which are required for your works.

Q. That's what I'm trying to get at.

A. I don't know the detail.

Q. So when you answered my learned senior that the sub-contractor was responsible for calling off the materials, you do not in fact know --

A. No, I do know that. The sub-contractor is responsible for calling off the materials.

Q. They are, I agree with that, because they make the order; right? But what I'm trying to get at is you do

not in fact know, when they ordered, they do not specify the threads of the rebars or the couplers. You don't know that?

A. I've not seen your order form, no, but I've read the sub-contract.

MR TSOI: Thank you very much.

WITNESS: Thank you.

MR BOULDING: No questions for this witness. Thank you, sir.

CHAIRMAN: Thank you.

MR KHAW: Mr Chairman, I have some questions, but I see the time. Shall we have the morning break first?

CHAIRMAN: Yes, certainly. 15 minutes.

Mr Speed, you are aware of the restriction on a witness who is in the middle of giving his evidence?

WITNESS: Sure.

CHAIRMAN: Thank you. 15 minutes.

(11.21 am)

(A short adjournment)

(11.41 am)

Cross-examination by MR KHAW

MR KHAW: Mr Speed, good morning. I represent the government. Just a few matters to discuss with you.

To follow up on what counsel for Wing & Kwong just asked you before the morning break regarding the calling

of materials and also the question as to who was responsible for ordering the materials -- just correct me if I'm wrong, you agree with Mr Pennicott that Leighton was responsible for ordering the materials; correct?

A. Yes.

Q. But what you have just told us is that you would probably require the specialist sub-contractor to tell you the type or the brand of the rebars of the coupler that should be ordered?

A. To call off the materials.

Q. Yes. That's what I don't quite understand, when you say "call off the materials", what do you mean?

A. So, under the sub-contract, it's quite standard that the main contractor would purchase the materials and the sub-contractor would provide the specialist labour for the fixing works.

Q. Yes.

A. The sub-contractor would basically detail what is required to execute the works, what materials is required.

Q. Yes.

A. He would then inform Leighton, and Leighton would then make sure -- or order the materials for the project. That's the normal process.

Q. Yes. Now, the problem we have here is that we have seen the drawings. Now, the drawings do not specify the brand or the particular type of rebars which should be used for contract 1111, regarding the interface.

But we have also seen what we call the material sheets provided by Wing & Kwong, specifying, for example, the measurements, the quantity required. Again, those material sheets do not specify the brand and the type of the rebars which would need to be used for contract 1111.

So the problem is this. When we are talking about the brand and particular type -- now we know it's Lenton couplers right, the particular type of couplers that would need to be used for contract 1111. Obviously, that was discussed in the interface meetings; right? You agree?

A. Yes.

Q. I suppose the specialist sub-contractor was not required to attend the interface meetings?

A. I'm not sure of all the attendees of those meetings.

Q. Right. According to the records, the sub-contractor was not required to attend those meetings.

Are you aware that then, after the interface meetings, there was also a QAS actually specifying the Lenton couplers that would need to be used for

contract 1111? Are you aware of that?

A. I've not seen that document, no.

CHAIRMAN: Sorry, QAS again? Quantity --

MR KHAW: Quality assurance scheme.

CHAIRMAN: Thank you. That's the quality assurance scheme.

MR KHAW: So what I'm interested in is, since Leighton attended the interface meetings where the specific brand or type of couplers for 1111 was discussed, so Leighton obviously knew about this requirement -- what I'm not quite sure about is apart from the fact that the sub-contractor should know what they do, on what basis did Leighton expect that Wing & Kwong, the bar fixing sub-contractor, would be able to actually identify the brand or type that would need to be used for contract 1111?

A. I think, as I said, we have documentation. We also have, you know, on-site measurements.

Q. Yes, but obviously on-site measurements were not only conducted by the bar fixing sub-contractor. Leighton would also have to play a part in doing inspection regarding the on-site conditions?

A. Yes, Leighton did the inspections.

Q. So if one is saying that the bar fixing sub-contractor should have been aware of a particular type or brand in relation to the couplers used for 1111, you agree with

me that Leighton would also have a part to play in identifying what would be the appropriate brand or type that should be used?

A. I think, obviously, the people who attended the interface meetings were aware of the requirement for Lenton couplers.

Q. Yes.

A. But there seemed to be a communication breakdown.

Q. Yes. Thank you.

Another point I would like to explore with you -- it's the issue regarding the chipping of the concrete surface that Mr Pennicott had also discussed briefly with you.

If couplers were damaged during the process, would Leighton be responsible for replacing those couplers?

A. Which couplers are you talking about? The 1111 or the 1112?

Q. Let's talk about 1112 first.

A. Yes.

Q. Just in general, if couplers were damaged during this chipping process, do you know whether Leighton would be responsible for replacing the couplers?

A. You are saying if these were damaged -- in this scenario, if Leighton had damaged the couplers, Leighton or Leighton's other sub-contractors?

Q. Yes.

A. Then -- I don't know the details, but Leighton would provide the material.

Q. Earlier on, Mr Chairman asked you a question regarding whether the engineers who were responsible for carrying out the inspection had been given sufficient training or instruction as to what they should look for, what they should see during the inspection process. Do you remember that?

A. Yes.

Q. Then you told us that Leighton has classroom trainings, on-site trainings, et cetera, et cetera.

The problem now is that we all know that -- for example, in respect of the stitch joints, we all know that there were improper or inadequate coupler connections during the execution of the works, and such improper or inadequate connections actually went unnoticed by the engineers on site, and we have discussed that with Henry Lai, et cetera.

So now we are aware of this problem, did Leighton consider that the engineers were not given sufficient training or instructions for the purpose of carrying out -- I mean instructions or training to the engineers for the purpose of carrying out the inspection works on site?

A. I think in terms of doing inspections, our engineers are aware of the requirements that are required to be done on the project.

Q. Because I asked Henry Lai and we also asked Jeff Lii yesterday, and it seems to us that their answer was that they were not given any particular instructions or notice as to what they should look for during the inspection process. That's the answer that they gave us.

So I'm interested to know, given what happened, has Leighton considered that the training or the instructions given to the engineers were not sufficient?

A. Let me just think about that.

I think in any organisation, there's always more that could be done in any area, and we are looking at different ways of education, different ways of training, that can be done in the future.

Q. If I can then move on to talk about the site diaries that Mr Pennicott also went through. If we can have a look at CC1/443.

If we can blow that up a little bit, and if we go to the number of labour.

MR PENNICOTT: Can we just get the date first?

MR KHAW: Sorry. This is --

MR PENNICOTT: 4 January 2017.

MR KHAW: 4 January 2017.

It's supposed to be a daily site record. If we look at the number of labour for each activity, I take it that the information must have been supplied by Leighton to MTR; am I correct?

A. Not necessarily, actually. MTRC have inspectors on the project, you know. We countersigned these records.

Q. Right. So you mean the MTR inspectors were supposed to actually be able to count the exact number of labourers for each activity?

A. With site diaries, they are a moment in time. Obviously there could be labour in a room or whatever moving around. So it may not reflect the exact number of labour on the project.

Q. Right. Now, you've told us that Leighton, as a main contractor, was not responsible for compiling any site diary. Is that correct?

A. Well, I said MTRC -- a diary was produced that we countersigned together with MTRC.

Q. Yes. But let's take a look at this countersign issue. If we can go to the bottom -- now, this one was apparently countersigned by Ian Rawsthorne, and he countersigned it on 16 February --

A. It's PPed by someone else, actually.

Q. Yes, by someone else, on behalf of him.

A. Yes.

Q. And it was dated 16 February 2017.

A. Okay.

Q. So that was more than one month after this particular site diary was prepared.

So what I'm interested to know is: what's the purpose of this countersign when it was done more than one month later, and Leighton does not have any raw materials, so to speak --

A. That's not correct.

Q. -- to actually verify --

A. That's not correct. I think maybe -- I thought the question you were asking me was did Leighton keep an equivalent diary the same as this?

Q. Right.

A. That's not -- did we keep it exactly the same as this? No, we didn't. But obviously, on our projects, we have records of all the resource on the projects for each sub-contractor.

Q. Right. So you mean that there would be records kept by Leighton, who would enable the representative of Leighton to verify the information contained on this site diary compiled by MTR?

A. It's before I was employed as a general manager, this date, but, you know, normally our staff would check

their own records, maybe with the labour officer, et cetera, of the resource on the project and what they were doing.

Q. Regarding the RISC forms, the only matter that I wish to discuss with you is this. We heard evidence from Henry Lai and also Jeff Lii that they failed to submit the RISC forms, and they told us that they are too busy at work, and Jeff Lii also told us that he did not find this whole process of making RISC forms very user-friendly, even though he told us that that was not the main reason why he did not compile the RISC forms. The main reason was still he had difficulty, he couldn't cope, because of the heavy workload on site.

So what I'm interested to know is: did Leighton ever tell the engineers, "When you encounter a problem on site which would make you unable to discharge your duties fully, which would make you unable to complete all your work that you are supposed to do", then what should the engineers then do; what steps should they take in order to let, for example, their superior know the difficulties? Do you --

A. We have very much an open-door policy within Leighton. You know, for example, my door is always open. I get calls sometimes from engineers or project managers -- different levels. It's very flat-lined in that respect.

So if there is an issue with an engineer, he can speak to his direct boss, which may be the sub-agent or site agent or construction manager and, you know, people are able to speak freely about what requirements are needed.

Q. Right. But from this incident, obviously we have been told by Henry Lai and Jeff Lii that when they failed to cope, they found their own way to try to solve the problem. For example, we have also seen an incident that RISC forms for a period of four months were suddenly submitted to MTR in one go. So that was how they perceived to be the way to solve the problem.

So given the incidents that we have now seen, has Leighton actually considered it necessary to review the system as to how or what the engineers should do when they encounter similar problems on site?

A. Sure. So if we just take the RISC forms, one of the issues that has arisen in respect of the RISC forms was that the ability to continue the works beyond the hold point. Say, for example, the reinforcement fixing, a RISC form should be submitted and the work should hold until that's approved, and then continue to the next step.

So when the system was changed by sort of, you know, a verbal approval, and was given and the works allowed to proceed -- we've reviewed that as a system, and what

we have now is that we have developed a system with construction lots, so that we forecast now on our projects the RISC forms that will be submitted for an area; okay? We now know whether or not a RISC form, at the end of each day or the end of each week, whether there's any outstanding for those areas. So we have tracking schedules and tracking systems in place.

So what has happened here, which could be down to maybe the archaic system we are dealing with will not happen again going forward. We have now put the systems in place to avoid this, and obviously the digitalisation which we have heading to now, towards the third quarter/fourth quarter with all our documents, this will make it much more easier, user-friendly, simplified processes to go forward.

But just because the RISC forms -- the RISC forms are just one element of it. You know, the formal inspections have taken place. There are, as we've said, diaries, there are WhatsApps, there are photographs; there's lots of other pieces of information around this.

Q. Finally, in relation to testing of materials, that you have also covered in your witness statement, as you told us that about 7 per cent of the rebar delivered to site was not tested, but you told us that Leighton intends to adduce expert evidence to address this point, or to

demonstrate as to whether the tests performed on the rebars was sufficient or not.

First of all, I would like to ask you, on this point, are you aware of the requirement imposed by the Buildings Department regarding the testing of materials?

A. In respect of the HOKLAS testing?

Q. I can actually take you to one of the acceptance letters: DD8/11586.

That's one of the acceptance letters in relation to HHS. If I can then take you to have a look at one of the appendixes, if I can take you to DD11571. This is one of the attachments to the government's acceptance letter. This attachment refers to certain requirements on sampling and testing of steel reinforcing bars which would need to be carried out.

If we look at paragraph (a), it says:

"Sampling and testing of steel reinforcing bars should be carried out in accordance with Practice Note ... Testing should be carried out by a laboratory accredited [by the HOKLAS] for the particular test concerned. Test results should be submitted within 60 days of the delivery of the steel reinforcing bars to the site. The test reports should be appended with a statement signed by the competent person to confirm the following:

(i) All steel reinforcing bars used for the construction and the test specimens covered by the test reports are in accordance with the types and grades of steel shown in the agreed proposal.

(ii) Sampling and testing of steel reinforcing bars used have been carried out in accordance with [the Practice Note].

(iii) The acceptance criteria appropriate to each type and grade of steel reinforcing bars used have been complied with.

(iv) ... carried out by a laboratory accredited under the HOKLAS."

In view of this requirement, would you agree that the materials delivered on site with only the manufacturer's certificate or with only the manufacturer's inspection would not be adequate because you still have to have the required sampling or testing before the materials could actually be used on site?

A. HOKLAS testing is required for the contract.

Q. Yes.

A. And what I said earlier was that, okay, we have 100 per cent of the testing from the manufacturers, which is often used in other countries, you know, and there is -- 7 per cent of it has not been HOKLAS tested. But all the testing carried out on the project has

passed.

COMMISSIONER HANSFORD: Do you know why, in some countries, that's acceptable without this additional on-site sampling? Do you know?

A. We are currently putting the expert advice around that. We do have examples of that where the manufacturer's is sufficient.

COMMISSIONER HANSFORD: Yes. I just wondered if you knew why it was different in Hong Kong.

A. I don't know the exact requirement, but we certainly have -- we are working on something now, at the moment, for the expert evidence.

COMMISSIONER HANSFORD: Okay.

MR KHAW: Are you aware of some previous incident -- have you heard about this incident called the Kobe Steel scandal where the manufacturer's certificate of inspection were actually not reliable and that caused misuse of materials?

A. As I said, all the material delivered to this project which was HOKLAS tested all passed.

Q. Finally, when we discussed the issues with Mr Kitching, he told us that there were certain internal reports compiled by Leighton after the incidents came to light, addressing the issues such as the estimated costs involved and progress, et cetera. Are you aware of

those internal reports?

A. Yes, I am.

Q. Any conclusions which have been made so far within those reports?

A. I think where we are in terms of reports at the moment -- as I said earlier, the focus was on rectifying the defects, which we've done, rectified it all. That was the main focus of that investigation.

MR KHAW: I have no further questions. Thank you.

MR LIU: Sir, no questions.

CHAIRMAN: Thank you.

COMMISSIONER HANSFORD: I have one, but perhaps if I can raise before Mr Shieh stands up, or speaks up -- he's not going to stand up.

Are you aware, Mr Speed, of an interfacing requirement specification for civils contracts?

A. In general terms, yes.

COMMISSIONER HANSFORD: Could we have a look at it? BB420.

A. I've not studied this document.

COMMISSIONER HANSFORD: No, no, no. I just want to take you to something. This is the appendix to contract 1112. I'm assuming there's a similar one for 1111, but never mind whether or not there is.

Can we turn to page, now, BB425. If you look at item 1.7, this sets out what the 1111 contractor should

do and what the 1112 contractor should do at an interface. I just wonder whether you agree with me that this implies a joint inspection between the two contractors, to identify couplers, protection measures to couplers, and accepts that they're provided at the interface? Is that what this --

A. I haven't read the document before.

COMMISSIONER HANSFORD: No, but reading it now, 1.7, do you see --

A. If "joint inspection" means the 1111 contractor and the 1112 contractor, if that's what it means.

COMMISSIONER HANSFORD: Well, I wonder if that's what it means, and if it does, then presumably the 1112 contractor would have seen the state, the conditions, of the couplers at the interface when this joint inspection was taking place.

A. I'm aware that they are responsible for the breaking out and making good any damage that occurred at that interface.

COMMISSIONER HANSFORD: My point is slightly different, because my point is you will have both seen it and agreed it, if this was followed.

A. I wasn't there so I can't comment on what happened at the workface.

COMMISSIONER HANSFORD: Okay. Thank you very much.

MR SHIEH: I have no re-examination.

CHAIRMAN: Good.

Thank you very much, Mr Speed. Thank you for your assistance.

WITNESS: Thank you very much.

(The witness was released)

MR SHIEH: The next witness for Leighton is Mr William Holden.

MR WILLIAM HOLDEN (affirmed)

Examination-in-chief by MR SHIEH

Q. Good morning, Mr Holden.

A. Good morning.

Q. You have given two witness statements for the purpose of this Commission of Inquiry. Can I ask you first to look at bundle CC1, page 72. You can choose to look at the hard-copy version, if you have, or look at the monitor in front of you. It's a document headed, "First witness statement of William Holden"; do you see that?

A. Yes, I do.

Q. Can you turn to page 80, where I believe you can find your signature.

A. That's mine, yes.

Q. Next, can I ask you to look at bundle CC6, page 3764. This is your second witness statement?

A. Correct.

Q. And your signature appears at 3783?
A. That's correct.
Q. You are prepared to put forward the content of these two witness statements as your evidence in this Commission of Inquiry?
A. I am.
Q. Thank you. Now, can I show you a corporate chart at CC2/526.
A. Sure.
Q. This is a familiar chart that we have seen a few times. You can see the blue "MTRC" box at the top?
A. Yes.
Q. And around 8 o'clock from the "MTRC" blue box, far left, we can see your goodself, "Engineering manager, William Holden"; do you see that?
A. We are there now. Yes, that's right.
Q. So that accords with your understanding as to your position within the organisation as of May 2017?
A. That's correct, at that point.
MR SHIEH: Thank you very much. You have presumably been observing these proceedings and you would know the order of proceedings. Counsel for the Commission, Mr Pennicott, in front of me, and other counsel will ask you questions, and also perhaps the Commissioner and Mr Chairman. Then I may have follow-up questions for

you in re-examination. So please remain seated and answer those questions.

WITNESS: Sure. Thank you.

Examination by MR PENNICOTT

MR PENNICOTT: Good morning, or good afternoon, Mr Holden.

A. Good afternoon. It's afternoon, just.

Q. First of all, thank you very much for coming along to give evidence to the Commission today.

Mr Shieh has explained the process so I'm not going to repeat it.

What I would like to do, though, Mr Holden, is just to spell out with you your involvement with this project.

A. Sure.

Q. I appreciate that you've set it out in your witness statement, but there are those not necessarily in this room who've not had an opportunity of reading the statement.

A. Sure.

Q. So if we can just put everything in context, and I do have one or two questions to ask you about your involvement at various stages in any event.

A. Okay.

Q. So you first became involved, as I understand it, with the project in March 2013, and up to about early 2015

you were a senior site agent, dealing primarily with foundation works in and about the diaphragm walls; is that right?

A. That's correct, for the Hung Hom Station.

Q. For the Hung Hom Station.

A. Yes.

Q. Then, from early 2015 to mid-2016, you were involved with the underpinning works to the existing podium structure?

A. That's correct.

Q. Then, from mid-2016 to late 2016 -- so I take that to be about a six-month period --

A. Yes.

Q. -- you say you were involved in the broader planning and commercial aspects of the project.

A. That's right.

Q. So that was presumably a sort of off-site --

A. No, it was on site. We were in the process of working with MTR to get to an interim final account, and I was involved in that process.

Q. Understood.

Then you say in early 2017 you went to the HHS area?

A. That's correct.

Q. What was your role at that time in the HHS area?

A. In the HHS, at that point in time, most our major civil

works was complete. We were coordinating access with the designated contractor, particularly 1173, which is the building services contractor. We still had some minor outstanding works that we needed to carry out in parallel with their works. So I was there to coordinate and carry out that works and complete it, for Fire Services inspection later in 2017.

Q. Understood. I've looked at the pour summary document for the HHS area --

A. Yes.

Q. -- and indeed there seemed to be, perhaps, half a dozen, perhaps a bit more, number of pours left.

A. Yes.

Q. So I had worked out that the civil works were basically complete and you were then moving on to building services, as you say.

A. That's right.

Q. Then, in May 2017, as we've just seen with Mr Shieh and the organisation chart, you were made the engineering manager?

A. That's correct.

Q. And that was the engineering manager for this project?

A. For the entire project, that's right.

Q. It was in that role, as I understand it, that you ultimately found yourself managing the remedying of the

stitch joint?

A. Yes. It was a side job, I guess. So the engineering manager was part of the role I was doing, but an extra because of the works that came up to do with the rectification; it got tasked to me.

Q. Yes. I think Mr Kitching has told us that he requested you to, as it were, head up --

A. That's correct.

Q. -- that investigation?

A. We were in a stage where a lot of the major works was downsizing, so we had limited people on the job at that point in time, so they asked me to come in and help out with this specific task.

Q. Okay. You tell us, and obviously one understands this, that you weren't involved in the initial construction of the NAT stitch joints.

A. That's correct.

Q. But Mr Speed has prompted me to ask you this question, a question that we are still, at least I am, trying to get an answer to.

I don't know whether you can help or not, Mr Holden. If you can't, just tell us.

A. Okay.

Q. We know that the stitch joints are constructed as one of the last operations, civil operations.

A. That's correct.

Q. We understand that's because the two structures that are going to be stitched together have to stabilise.

A. That's correct.

Q. The question that we're asking, that I'm asking, is: how does one know when that stage has been reached and it is safe and appropriate to start constructing the stitch joints? Do you know the answer to that question?

A. I've done some homework, you will be pleased to know. I'm trying to answer your question. But I don't know definitively because there's nothing within our contract that I can find where there's a quantity of "you are not allowed a certain amount of settlement beyond X millimetres over a period of time", and I wasn't there at the time, but we did monitor the structures throughout the period. So our only guide was that note on the drawing which has come up already, which is "as late as possible" and after completion of recharge. So I'm assuming, at that point in time, we were getting pushed to hand over the track works, the backfilling was complete, recharge was completed; we were ready to carry out the work. But I'm not aware of any monitoring or instrumentation or report that was required and approved by anyone -- or it would have to be approved by the permanent works designer as their design requirement for

stitching that structure together.

Q. All right. And has your research indicated as to whether there might have been any communication/discussion between Leighton and MTR?

A. I couldn't find any.

Q. You couldn't find any? Okay.

Turning to investigation, Mr Holden.

A. Sure.

Q. Picking it up in your witness statement, please, that's your first witness statement, at paragraph 17 -- you tell us that you were assigned in January 2018 "to inspect some concrete cracking and water ingress at the NSL interface stitch joint ... with a view to providing your recommendations on remedial measures." Then you say this:

"I inspected the NSL [interface stitch joint, as I'm calling it] and spoke to the construction manager appointed to the NAT at that time."

Would that be Joe Tam?

A. Joe Tam had left the project by that time. I think I spoke with -- the person I'm referencing there is Colin Mitchell.

Q. You spoke to Colin Mitchell?

A. Yes.

Q. "He explained to me that there had been water leakage

since late 2017 and that Leighton's workers had been carrying out remedial injection grouting to seal up the cracking."

All right. Now, at paragraph 21 you say this:

"Between 7 February 2018 and 14 February 2018, Leighton's workers broke holes in the concrete and exposed some of the reinforcement bars at the NSL stitch joint ... I was personally involved in inspecting the rebar and coupler connections. On inspection, I could see that a significant number of the exposed rebar had been incorrectly connected, or were not connected, into the couplers."

A. That's correct.

Q. When you make those observations, Mr Holden, are you referring to both sides of the stitch joint, that is the Gammon-Kaden side and the Leighton side?

A. The first inspection was the Gammon-Kaden side, but we did break holes on the Leighton side of that same joint at a certain time.

Q. So you started with the Gammon-Kaden side?

A. That's where the crack was present, on the Gammon-Kaden side.

Q. Okay. That was where the water seepage was presumably, as well?

A. Yes, that's right.

Q. Then, having broken, what, approximately how many holes on that side?
A. I think, if I recall, about six holes. There's two tracks and probably about six to eight, I think, in that location.
Q. Right. On the Gammon-Kaden side?
A. Or in that joint entirely, in total.
Q. So having broken out some areas on the Gammon-Kaden side, you then went to the other side and did a similar number of --
A. Yes, that's right.
Q. So probably about three or four holes on each side?
A. Three or four holes on each side? That's right. We only had access to the walls immediately, so we did the wall breaking-out, because the track was still in place in the base slab.
Q. Understood. And were the problems that you observed essentially the same on both sides?
A. The problem on the northern side, the Gammon-Kaden side, was different, because of the use of Lenton couplers, and the fact that a BOSA thread had been attempted to be threaded into a Lenton coupler. So they were partially engaged but there was thread sticking out of the Lenton coupler; whereas on the southern side, which is the Leighton side, there was a combination of some of them

were installed correctly, full engagement, and others weren't installed at all, they were put close to the coupler.

Q. Just to take it in stages, on the Gammon side, on the northern side, there were instances of rebar partially screwed into the couplers --

A. That's correct.

Q. -- but only partially?

A. There were instances of partial installation and then also no installation.

Q. No installation?

A. That's right.

Q. All right. Then, on the Leighton side, there were instances of full engagement but also instances of no engagement?

A. Exactly.

Q. On the Gammon side, where there was partial engagement, presumably there were quite a number of threads showing?

A. Yes. I think you could get it in two to three threads, I think is the recollection. I can't recall if that's from that point in time or subsequent knowledge.

Q. Okay. And all of this was pretty clear and obvious?

A. That's right.

COMMISSIONER HANSFORD: Just in your paragraph 24 --

A. Sure.

COMMISSIONER HANSFORD: -- which I think is where we are.

MR PENNICOTT: Or where we're coming to.

COMMISSIONER HANSFORD: You ask your questions first then, Mr Pennicott, because it may cover my points.

MR PENNICOTT: We'll see.

Before we get to paragraph 24, Mr Holden --

A. Sure.

Q. -- which we will be coming to, I promise -- you deal in paragraph 23 with of the internal stitch joint.

A. Yes.

Q. Let's deal with that first. You say:

"Between [those dates] 9 February 2018 and 14 February 2018, Leighton's workers broke holes in the concrete at the other two stitch joints ..."

Can I just focus, please, on the internal stitch joint.

A. Sure.

Q. What did you observe at the internal stitch joint? What was the problem there?

A. The internal stitch joint, there was quite a lot of threaded bar and coupler that wasn't engaged at all, and this was in the six or so locations on both sides of the joint.

Q. On both sides of the joint, right. So again it was approximately three to four holes on each side of the

joint?

A. That's right.

Q. Some partially engaged, some not engaged and some fully engaged; a combination of all three?

A. I would say the ones that were engaged were fairly well screwed in. There was no reason for them not to be fully installed. But there was quite a lot that weren't lined up with couplers at all and were sitting adjacent to the couplers.

Q. Right. And so far as the EWL stitch joint is concerned, the situation there was similar to the NSL interface stitch joint?

A. That's correct, yes, in relation to the engagement of the couplers, yes.

Q. And a similar number of opening-ups done?

A. We did the trough walls initially, so there were two trough walls, there's no roof in this location, and we couldn't get access to the track slab because it was on a live railway at that point in time or it had rail on it.

Q. Okay.

COMMISSIONER HANSFORD: Perhaps I will ask my question then, if I may. My question relates to the waterproofing measures.

A. Sure.

COMMISSIONER HANSFORD: Because it seems, in your paragraph 24, that at the 1111/1112 stitch joint, you concluded that water seepage was due to non-engagement of couplers.

A. Mm-hmm.

COMMISSIONER HANSFORD: Whereas at the 1112/1112 joint, you concluded that it was due to a failure of the waterproofing measures. Is that right?

A. The 1111/1112 joint had -- because the couplers weren't engaged, and likely due to the cold weather had actually cracked apart, so the permanent waterproofing measures are a PVC strip which is cast as a waterstop between the two structures, in parallel with some hydrophilic strips. So any amount of movement of that, the concrete bond to the PVC strip would not work, so it would create a water path around that. That's why I say the crack or the non-engagement of the couplers was the first cause of why that joint was leaking.

COMMISSIONER HANSFORD: There's also an Omega seal.

A. Omega seal is a temporary seal that allows some movement. My experience with those is they do let a little bit of water in, in a permanent case. They are not a thing that may be a permanent waterproofing detail.

COMMISSIONER HANSFORD: I see.

A. But you're right, there was an Omega seal there, but of course for it to be leaking, it would have had to have breached the Omega seal as well.

COMMISSIONER HANSFORD: So on that one, it was clear that the water path was due to the crack?

A. Yes, that's correct.

COMMISSIONER HANSFORD: And on the other one?

MR PENNICOTT: Sorry, before we get to the other one --

COMMISSIONER HANSFORD: I'm sorry.

MR PENNICOTT: Due to the crack --

A. Yes.

Q. -- was the crack caused by the non-engagement or lack of engagement of the rebar?

A. That's my view, yes.

Q. So it's the first time we've really had an explanation of the causation of why it was ultimately the non-connection or lack of connection of the rebar that was, in your view, the ultimate cause?

A. Yes.

Q. Sorry, now with regard to the other one.

A. With the other joint, the internal joint or the 1112/1112 joint, NSL, there was water leaks at that location but no crack was present.

Now, I state that the permanent waterproofing must have failed, which is obvious because there was water

coming through. There was the same waterproofing detail was in the 1111/1112 joint. However, why that is, I don't think it's to do with the crack because the crack wasn't present. It could have been to do with the fact that the roof of the 1112/1112 joint was not completely concreted, as completed in the original cast. It was only half-full. The fact is that the PVC waterstop may not have been fully engaged with the concrete at the roof section, creating a water path through the Omega seal, along the joint, and then around the PVC, and then out through the joint on the internal side of the 1112/1112 joint.

We had been doing grout injection on that joint for several months prior to that, and chasing the water around the joint, but unsuccessfully to stop it.

Q. Just pausing there. When did you realise -- at what point did you realise there was this void --

A. We didn't realise there was a void there until we started the demolition in the roof.

Q. Is this where you were pumping the grout in?

A. The grout was pumped after, as part of the remedial measure, to avoid any potential void in the roof pour. But when we pumped grout initially after the demolition, that was to seal up behind the Omega seal on the outside of the structure, because when we broke through the --

or demolished the roof of the interface joint or stitch joint 1 at NSL, we did have a significant amount of water coming through from the ground into the tunnel. So we did a cementitious injected grout through the tunnel lining, and then that was attempting to try and solidify and stop the water path from the ground coming into the tunnel.

Q. Right.

A. We carried that out only on the interface joint 1111/1112.

Q. Yes. On the NSL?

A. That's right, the NSL. There's no water leaks -- it's above the water table at EWL.

Q. And there's no roof?

A. Exactly, yes.

Q. Just focusing on the internal stitch joint for a few more moments, despite your conclusion that the water seepage had probably occurred as a result of the failure of the installed permanent waterproofing measures, as you say, you had discovered the lack of connection of the rebar --

A. That's correct.

Q. -- in that joint?

A. That's right.

Q. So despite your views about what was causing the

problem, the decision was in any event just to rip it all out and start again?

A. Exactly. We've seen that it needed to be replaced, yes; for structural reasons, not waterproofing.

Q. Yes, structural rather than waterproofing, yes, understood.

When you were carrying out this investigation, Mr Holden, did you, as part of that investigation, seek to look back in time and seek to find any records of the means by which the original stitch joints had been constructed? Did you look back to find any relevant records?

A. We did a study to see whether inspection forms were there, and then also we did some discussions with the people that were involved at the time.

Q. Right. So, during the -- fairly early during the course of this investigation, presumably you must have appreciated that there were no, for example, RISC forms in relation to the original stitch joints?

A. That's correct.

Q. Paragraph 26 of your first witness statement, please. You are dealing here with the remedial proposal for the EWL stitch joint.

A. That's correct.

Q. So let's just focus on that for a moment. You say:

"On or around 3 March 2018, Leighton submitted formally via contractors submission form the 'Task method statement for EWL stitch joint reconstruction' for MTR's approval. This was followed by a further revision on or around 17 March ..."

First of all, Mr Holden, can you confirm that there was no equivalent task method statement for the original stitch joints?

A. I'm not aware that there was. There is a general method statement for the NAT permanent works, the station-box EWL. From my recollection of that document, it didn't deal specifically with the stitch joint.

Q. That was the conclusion I have reached, having looked at that general method statement for the NAT.

Can I ask you this. From your experience, would you have expected the original stitch joints to have had a specific method statement for their construction?

A. I think there should have been some specific notes related to the stitch joints within the method statement or a separate method statement, yes.

Q. At paragraph 30 of your witness statement, you deal there with the remedial proposal for the NSL stitch joint -- stitch joints -- and at paragraph 30 you again refer to a task method statement, and in relation to the NSL stitch joints, I assume your answers are the same --

A. Yes.
Q. -- in relation to the method statement?
A. Yes.
Q. Then could I ask you, please, to go to paragraph 37 of your witness statement. This is just to pick up the subheading. You will see, just above paragraph 37, you are dealing there with the rectification of the NSL stitch joints.
A. (Nodded head).
Q. Then if I could ask you to go to paragraph 42, a point we have already touched upon but perhaps I could just ask you a couple of further questions. You say:
"During the demolition works of the NSL stitch joint ..."
That's the internal one?
A. That's right.
Q. "... T&M ..."
I think that's one of the sub-contractors doing the works?
A. Correct.
Q. "... discovered that there was a void above the cast concrete in the roof of the stitch joint. The likely reason for the void was due to difficulties encountered during the concreting works which forced the early termination of the concrete pour. I was not aware of

this void at the commencement of the rectification works."

Was that void a contributory factor to the problem?

A. I think a contributory factor to the water inflow, but -- structurally it is a problem as well, but yes, compounded with the rebar non-connection.

Q. Right.

In paragraphs 43 through to 49 of your witness statement, you describe the further concreting problems that were encountered when you tried to reconstruct the roof of the internal stitch joint?

A. Yes.

Q. As I understand it, those were all overcome, and the NCR199, as you say, was closed out satisfactorily?

A. That's correct. The only point of note there, I guess, is that it was a difficult piece of work to do in a roof pour. It needed to be poured under pressure, so injected into the formwork in the roof, there was no access from on top, and using gravity to assist placing the concrete. This can be done quite easily in tunnels, but this was a bit unusual because of the high density of reinforcement required because of the stitch joint and the confined nature of the works; it was restricted to a 2 metre by 1 metre high box. Then injecting concrete into that space, with up to six layers of

40 millimetre reinforcement, was quite difficult.

The design required a 20 millimetre aggregate, which is normal size, but it's difficult to pump large aggregate size concrete into highly congested concrete pours, particularly when you are pumping from the surface down into the tunnel and then vertically up into the formwork.

Q. So the solution to that was you got the MTR's permission to use a different concrete mix?

A. Yes. We requested a few options from them, to try to reduce the amount of reinforcement that was in the concrete pour, because we were aware that it was over-designed. There was some spare utilisation in the stitch joint. But that was not accepted. But we did get an acceptance of using a 10mm aggregate which ultimately was successful.

Q. Then, in paragraphs 54 to 59 of your witness statement, Mr Holden, you deal with the shunt neck --

A. Yes.

Q. -- joint, and you say, the last line of paragraph 57:

"On inspection, I could see that the exposed rebar in the trough walls were not properly connected to couplers."

A. That's correct.

Q. So a similar situation to the EWL stitch joint; is that

right?

A. That's correct. We only had access to inspect the trough walls in that location, and there were Lenton couplers left on the Gammon side in the trough wall, and there weren't Lenton threaded rebars, and so the connection was not complete.

Q. Okay.

Sorry, sir -- could I just have one moment?

CHAIRMAN: Of course.

While Mr Pennicott is just checking, could I ask you this. Perhaps I should have asked it of earlier witnesses. But in the stitch joint areas, as I understand it, you've got quite a -- the breadth of them is only 6 metres, maybe, is it?

A. Across -- or between the two structures or across --

CHAIRMAN: Between the two structures.

A. Between the two structures, only about 2 metres.

CHAIRMAN: Oh, 2, yes. That's the breadth. But the length is obviously considerably longer.

A. Two track widths, 16 metres. The 1111/1112 joint, the interface joint, is smaller, it's not as wide. The internal joint is wider. It's adjacent to a niche.

CHAIRMAN: When the rebars have already been fitted and you are looking to conduct a formal inspection, would those restricted measurements present any particular

difficulty in conducting the inspection?

A. I would say it's not as easy as a normal concrete pour where you are connecting a slab to a wall, for example. I mean, it's quite clear and obvious. But these were confined areas, that's for sure. There was a lot of reinforcement in them, particularly in the internal joint, and access around them, because particularly in the roof you had to get up on top of a scaffold and have a look up there.

CHAIRMAN: Yes.

A. I would say the external layer of reinforcement would be quite easy, and unless you inspected every layer, it probably would be difficult, definitely, to see the internal ones because of the amount of reinforcement that was in there. You wouldn't be able to see the fixing of the inner layers of reinforcement.

CHAIRMAN: But presumably, if you had been keeping a running view, a running inspection of the work as it progressed, you would obviously then initially --

A. That's true.

CHAIRMAN: -- have seen the inner layers?

A. Yes, the inspections aren't come and have a look at a final product. They are done progressively throughout the works, even informally.

CHAIRMAN: Yes. And what you would have seen, when you

started to cut in, would have been bars more on the outside, initially, or more --

A. That's correct, so when we carried out the inspection opening, so the hand-broke little holes, there were just the outside layers.

CHAIRMAN: Yes.

MR PENNICOTT: Mr Holden, can I just refer you to your second witness statement --

A. Sure.

Q. -- which starts at C6/3764. I just have a couple of points I want to take up with you.

You deal with the SAT general sequence of construction. Then you move on, at paragraphs 7 and following, to set out the sequence of construction in relation to the various aspects of the HHS. That's the track slabs, the accommodation blocks and the NFA.

A. Correct.

Q. Then you deal with the various standards and requirements for the rebar fixing at paragraph 21. Then, at paragraph 24, you take up the question of the use of couplers instead of lapping. Then eventually we will get to what I want to ask you about, which is, at paragraph 30, you've got a heading just above there, "Use of drill-in bars in SAT".

A. Yes.

Q. So this is something entirely different, nothing to do with stitch joints.

Did you have any involvement with this particular aspect, that is the drill-in bars at the SAT, Mr Holden?

A. My involvement in the drill-in bars at the SAT was not to do with the construction but the subsequent works, since they are referred to as the Atkins report in point 32. So I was involved in developing that with Atkins.

Q. Right.

A. And I was responsible during the construction of the SAT1, 8 and 9 back in 2014, the actual diaphragm wall works.

Q. Sorry, let me make sure I understand this. Were you involved in the decision to use drill-in bars at those connections, at those panels SAT1, 8 and 9?

A. No, not directly.

Q. But you were involved in, as you say, the Atkins report in relation to that particular topic?

A. Subsequently. I was aware of the requirement for some drill-in bars and why they were required at the time, but not specifically for these panels, and then I wasn't aware of them being carried out on site. I wasn't responsible for that.

Q. Okay.

Lastly, Mr Holden, have you or are you playing any role in the preparation of the as-built drawings to be submitted to MTR at the moment?

A. Yes, I am.

Q. Can you tell us what the current situation is, broadly speaking?

A. Generally, for the as-built drawings, we submitted a set of almost all -- I think all as-built drawings in 2017 to MTRC. They have been submitted with MTR and some have been commented and come back for us.

Since halfway through year, with the issues relating to the Commission of Inquiry number 1 and the use of couplers, we provided revised design proposal which finally will go into as-built drawings related to the diaphragm wall, to EWL slab connections, and similarly for NSL and the construction joints and so on.

So we have submitted last month a revised set of drawings, including the known locations of where we've used couplers in SAT, HHS and NAT, including NFA, and then also the design changes related to the first Commission of Inquiry for the EWL to D-wall slab connections were submitted last year. So they are currently with MTR.

Q. Right. So, to sum that up then, a full set of as-built drawings were submitted in 2017, as you have indicated?

A. Yes.

Q. And they have gone through a revision process as a result of the various problems that have been discovered?

A. That's right. The ones that were submitted in 2017 were essentially the latest copy of working drawings which we constructed to. The information we provided recently is in relation to more information, over and above the working drawings, including positions of couplers and other minor amendments that we've put on drawings and provided to MTR.

MR PENNICOTT: Okay. Sir, I have no further questions.

CHAIRMAN: Good. Thank you.

COMMISSIONER HANSFORD: I have one. In fact, you may have heard us ask Mr Speed about the current status of the proposals on the repairs of the shunt neck joint.

A. Yes.

COMMISSIONER HANSFORD: And in paragraph 59, at the bottom, you say you are waiting on MTR, but I understand that there may be news on that; is that right?

A. Yes, the wait is over. We've got a response from RDO at the end of last week, which was a correspondence to MTRC which they provided to us under transmittal last week so we owe a response to MTRC with response to comments, which have actually been discussed with BD already in

an informal meeting, and then MTR also have some outstanding comments that they need to respond to RDO. Once they are received, we will get acceptance of that package, I'm assuming.

COMMISSIONER HANSFORD: And in essence, what are you doing there?

A. The remedial work includes the installation of some steel plates to the trough walls.

COMMISSIONER HANSFORD: Yes.

A. We have carried out -- Atkins have carried out an assessment and determined that actually the two structures are sitting on piles themselves, so there's very little risk of any differential movement or settlement, but it's just as a mitigation to recognise that the trough walls aren't connected with reinforcement, continuous reinforcement. We are going to install essentially some strengthening plates to the outside of the structure.

COMMISSIONER HANSFORD: Okay. I've seen that. Thank you.

CHAIRMAN: Yes?

MR TSOI: If I may, Chairman, because I may be absent in the afternoon, although I note the time. I'll be quite short.

CHAIRMAN: That's all right.

Cross-examination by MR TSOI

MR TSOI: Mr Holden, I act for Wing & Kwong, the rebar fixers. I've just got one or two matters to clarify with you.

Can I take you to page CC1350. This is a Wing & Kwong letter to Leighton, and this is the Leighton version of it. We can see the list of names on the latter right-hand corner of the page. If we could scroll down, closer. That's it.

We see a tick next to your name, to "Act". Is that to action?

A. That's what it means, yes.

Q. Now reading that, can you now recall talking to anyone about this reply from Leighton -- from Wing & Kwong?

A. Can you scroll to the top, please, just so I can ...

Okay. So I drafted the Leighton letter for Jon Kitching's approval.

Q. Right.

A. It's come back to me for action likely because I drafted the initial letter.

Q. Right.

A. My follow-up action in relation to this -- I think I would have passed this to the commercial team.

I think it deals with commercial matters; is that right?

Q. Yes.

A. So I would have spoken to the commercial manager in

relation to this, because I think it deals with -- I can't read the bottom of the letter, actually, but I think it deals with retention. Is that what it is?

Q. Right. Understood.

Now if I can turn you to page CC1356. That's also a Wing & Kwong letter to Leighton, on 26 February 2018.

A. Mm-hmm.

Q. Again, on the right-hand side, we see a list of names of the Leighton individuals, and we see a tick next to your name --

A. Yes.

Q. -- I think to action as well?

A. That's right.

Q. But in the middle there, I think it says, "Will: Note they want a joint inspection", and then "arrange". Can you now recall who wrote that?

A. That's Jon Kitching's handwriting.

Q. Is that Mr Kitching writing to you?

A. He is, yes.

Q. So he's asking you to arrange for a joint inspection with Wing & Kwong?

A. That's right.

Q. We know, of course, that in the end there's no joint inspection. Can you now recall what happened after that?

A. I thought Ah Chun came to our site and was taken to the stitch joint.

Q. Yes. That was before, so that's why I'm asking.

A. Okay. I'm guessing maybe the joint inspection carried out prior. I know the stitch joint was arranged through Cheung Chi Wai, who was working for me at the time, with Ah Chun, and there was a meeting. So I'm not sure when that note was put on there but if I did receive that request, then the joint inspection had already taken place.

Q. So you don't recall there was a change of mind about a joint inspection?

A. Well, no, the joint inspection had already taken place in my view.

Q. Had already?

A. Had already, yes.

MR TSOI: Thank you very much, Mr Holden. That's all I wish to ask.

MR BOULDING: I have some questions on one matter, sir. You might think it's more appropriate to deal with it after lunch.

CHAIRMAN: Yes, it sounds so. Thank you very much.

Mr Holden, we are going to have lunch now. Because you are giving your evidence at the moment, you are not entitled to discuss your evidence with anybody until it

is completed; okay?

WITNESS: Okay.

CHAIRMAN: Thank you very much. 2 ...?

MR PENNICOTT: 2.15?

CHAIRMAN: 2.15. Thank you.

(1.01 pm)

(The luncheon adjournment)

(2.16 pm)

Further examination by MR PENNICOTT

MR PENNICOTT: Sir, good afternoon. Prof Hansford, good afternoon.

Mr Holden, good afternoon.

Before Mr Boulding continues, can I just mention one matter. During the course of Mr Holden's evidence just before lunch, Prof Hansford was asking him some questions regarding the current state of play in relation to the shunt neck joint and the remedial proposals.

In one of Mr Holden's answers, he referred to a letter from RDO that was received at the end of last week, and I just wonder if I can show him what I believe to be the letter, just for the sake of getting it on the transcript.

CHAIRMAN: Sure.

MR PENNICOTT: One does one's best to keep up with what's

going into the bundles almost on a daily basis, and unfortunately sometimes things slip through the net. This one certainly did so far as I was concerned.

If we go to DD9, at page 12254.

It's okay, he's got it on the screen.

A. That's fine.

Q. Mr Holden, this is a letter of 28 May from the Highways Department to MTR, which I imagine was then passed on to you; is that right?

A. That's correct. This is the one.

Q. Is this the letter you were referring to before lunch?

A. It is.

MR PENNICOTT: Thank you very much. That's all I wanted to clarify.

So it's there, sir, if you want to look at it in due course.

CHAIRMAN: Thank you very much.

Cross-examination by MR BOULDING

MR BOULDING: Good afternoon, Mr Holden. I'm acting for MTR and I've got one matter that I'd like to discuss with you, please.

If we could go to your second witness statement, which is in bundle CC at 3764. I think we'll find it starts there. Splendid.

Then can we go on, please, to paragraph 24(a) at

3777. Scroll up, please. I want to see the top of the letter.

We ought to pick up the bottom of the previous page, just to read Mr Holden into what he says: "Use of couplers instead of lapping", then paragraph 24, "Leighton has disclosed to the Commission", then over the page, please:

"(a) drawings identifying the indicative locations within the NAT, SAT and HHS where couplers were adopted instead of lapping to connect rebar ..."

Then we've got various references to a number of documents; do you see that, Mr Holden?

A. I do, yes.

Q. Then you have a footnote there, footnote 6, and if we can scroll down to see what that says:

"Leighton was not obliged to keep contemporaneous records of its use of couplers and lapped rebar at each construction joint within the NAT, SAT and HHS."

It's that proposition I would like to discuss with you --

A. Sure.

Q. -- if I could, please.

To start our discussions, first of all, could I go to bundle C, page 2128. That's the beginning of the document.

Do you there see, Mr Holden, that we are in part of the General Specification for Civil Engineering Works; do you see that?

A. I can see that, yes.

Q. And that was part of the contract 1112 documentation, was it not?

A. I agree.

Q. We can see, can we not, that we are at the beginning of section 15, entitled "Document management"; correct?

A. Yes.

Q. If you would be kind enough to go on to C2131, and do you there see clause G15.4.1?

A. I do.

Q. We can see, can we not, that the specification is talking about as-built drawings?

A. Sure.

Q. If I might be permitted to read into it:

"On completion of the work, the Contractor shall compile and certify a set of as-built drawings for the Engineer's Approval."

A. Sure.

Q. Then you are told, are you not, that:

"The as-built drawings shall employ the Employer with a permanent record of each project features."

Correct?

A. Correct.

Q. You would accept, I assume, that these are indeed important drawings?

A. Sure. Yes.

Q. Reading on, if I may:

"This set of record drawings shall consist of the following:

(a) actual locations, dimensions and structural details of the completed Works".

Were you aware of that requirement, Mr Holden?

A. Yes.

Q. Then:

"(b) actual method and sequence of construction and installation".

Do you see that?

A. I see that. I'm unsure how some of that would be reflected in the drawings, to be honest with you, but I see it's in the contract.

Q. Yes, quite. And presumably Leighton would do its best to comply with the requirements of the contract, would it not?

A. Sure.

Q. Then:

"(c) left-in Temporary Works or permanent formwork".

Perhaps we can just skip that, but (d):

"Approved/used construction materials and products ..."

Do you see the reference there?

A. I can see that, yes.

Q. "... including, but not limited to, grade of concrete, movement joints, construction joints, waterproofing membranes, structural bearing, cast-in structural brackets, pipework, cable works, and ductworks".

Again, I suspect you'd agree with me that they are all important matters, are they not?

A. They are.

Q. Then we can look at (e), "provisions for future extensions", but perhaps that doesn't matter too much for present purposes.

But I wonder if we could now go on in the bundle to B12534. Here we see, do we not, part of the Particular Specification for contract 1112?

A. Yes.

Q. And again I assume that you have seen this document before?

A. I've seen this, yes.

Q. And presumably you are familiar with its contents?

A. Yes.

Q. For my present purposes, we can see, can we not, a definition of the phrase "as-built drawings" at the

very top of the page?

A. Sure.

Q. And reading, if I may:

"As-Built Drawings' means the drawings which are the as-built record of the Works incorporating all dimensioned amendments, changes modification and alterations to the Works."

A. Sure.

Q. "The Contractor shall provide As-Built Drawings in accordance with General Specification Section 15."

Which of course we looked at two or three minutes ago.

A. Sure.

Q. Then if we roll on, if we can, in that document to B12535, do you there see a clause P28.6?

A. I can, yes.

Q. Reading that, if I may:

"Notwithstanding the requirements elsewhere in the Contract for provision of records, the Contractor shall submit all construction records in PDF format, required for the preparation of a comprehensive Project Record, within 21 days or as soon as practicable after the completion of the activity to which the records relate."

Presumably, you were aware of that, were you not, Mr Holden?

A. I wasn't aware of that condition, actually.

Q. Well, you are now.

A. Yes.

Q. Just to finish that:

"Preliminary records shall be submitted within 24 hours."

A. Mmm.

Q. Then moving on, if I may, to 28.9:

"Prior to substantial completion of the Works, the Contractor shall prepare, provide and submit As-Built Drawings or records as required under the Specification to the Engineer for Approval and to the Government departments and relevant authorities as required."

So there we can see once again, can we not, the reference to those as-built drawings which we discussed a moment ago --

A. Sure.

Q. -- in the context of the General Specification.

Then if we could go to B12536, and here we are still in the Particular Specification; do you see that?

A. I can.

Q. You can pick that up at the top of the page. I don't want you to be disadvantaged.

A. "Operating and maintenance manuals and as-built drawings", PS/001, yes.

Q. Splendid.

Let's have a look at clause P32.2:

"Unless agreed with the Engineer, the Contractor shall provide the Engineer as-built drawings for all the Works with four hard copies and two electronic copies on CD-ROMs in both MicroStation and PDF format. As-built drawings shall be prepared and submitted strictly in accordance with the requirements of the Drawing and the CADD Manual."

Again, is that a clause that you had occasion to read before?

A. I am aware of that clause, yes.

Q. Having been through those documents, reminded you of some of the terms, drawn to your attention some of the terms for the first time, what I suggest to you, Mr Holden, is that contrary to what we saw you said in your footnote 6, Leightons was indeed required to keep contemporaneous records. That's correct, is it not?

A. I'm just not sure about the precise location of where these couplers were used, because if you look at the General Specification, I think it refers to construction joint materials, couplers, that sort of thing, more like proprietary products which might appear on a general note on a drawing, rather than a precise location exactly where these joints were made or where the

coupler is within the works and precisely how many.

Q. Well, I think we can read the clauses for ourselves and what I've got to suggest to you is that Leightons were in fact required to keep contemporaneous records, including where couplers were used and lapped bars were used at each of the construction joints within NAT, SAT and HHS. That's what I'm suggesting to you, in the light of the clear wording we have read together.

A. You know, in my experience, it's not usual practice to be recording particularly the location of construction joints or where you may have moved the location of a lap on rebar within a continuous reinforcement structure. Similarly, using couplers in a location where -- in place of a lap, which is in accordance with the code of practice, can also be used. And generally that level of information has not been updated in an as-built set of drawings in the past.

Q. Well, you are talking about your personal experience.

A. Yes.

Q. That's exactly why I took you to the wording of the specification, the General Specification and the Particular Specification. And what I suggest to you is, notwithstanding your personal experience, having regard to the clear terms of those specifications, Leightons had an obligation to keep contemporaneous records,

including where couplers and lapped rebars were used at each of the construction joints within the NAT, the SAT and the HHS. Is that something you would accept?

A. I have difficulty accepting that at the moment. The General Specification I think is probably more related to proprietary products and if they've been used and what were used for a product traceability exercise. I can't see the purpose of having an as-built drawing to show the exact location where a lap may be, because structurally it doesn't matter. Similarly with couplers.

Q. Well, we can look at clause G15.4.1 in due course and we will make our submissions on that.

But thank you very much.

A. Thank you.

Cross-examination by MR CHOW

MR CHOW: Chairman and Prof Hansford, I have a few questions for Mr Holden.

Good afternoon, Mr Holden.

A. Good afternoon.

Q. I represent the government and we have a few questions for you.

A. Sure.

Q. You recall that in your statement, you told us that you became the engineering manager in May 2017?

A. That's right.

Q. And upon taking up that position, you were responsible for various engineering matters --

A. Sure.

Q. -- of the project?

A. That's right.

Q. We now know that the original joint 1, the original stitch joint 1, was built between 6 July 2017 and 2 August 2017.

A. Mm-hmm.

Q. You can take it from me that we have evidence to show that.

A. Sure, yes.

Q. And joint 2, the original stitch joint 2, was built between 26 July and 29 July 2017. So they were built after you have taken up the position as engineering manager.

A. Sure.

Q. But earlier you mentioned that you were not involved in the original stitch joint work, so is that the position?

A. That's correct.

Q. I would like you, if you don't mind, to help me understand better the real cause of water leakage in joint 1 and joint 2. Now, by joint 1, the convention is that it refers to the stitch joint at the interface of

NSL.

A. Correct.

Q. And joint 2 is the internal stitch joint --

A. Correct.

Q. -- of NSL.

Let's start with joint 1 first. First of all, I would like to refer you to the interface requirement at bundle BB1, page 420, please.

The particular part of it can be found at page 424, please. This is part of the interface requirement of the Particular Specification of the contract.

A. Yes.

Q. Item 1.4 specifies, in the middle column, for contractor 1112 -- do you see that?

A. Yes, I do.

Q. It specifies that:

"To complete the stitch joint, including Omega seal, rebar and infill concrete, after tunnel backfilling and stabilisation of tunnel settlement."

A. Yes.

Q. Do you see that?

A. I can.

Q. Is it logical to deduce from this requirement that if the settlement of the two structures on each side of the stitch joint hasn't stabilised, the reinforcement, as

designed in the contract document, may not be strong enough to hold the two structures together? Otherwise, we don't need to specifically state that as a requirement; is that right? Is it logical?

A. It's logical, yes.

Q. Now, at the same time, we also see that there is a requirement for monitoring.

If we now go to item 1.5 on the same page, item 1.5, for contractor 1111, it requires that -- contractor 1111 has to "provide access for 1112 contractor to install monitoring points and carry out monitoring", and "To relocate the monitoring point installed at contract 1112 area".

Can you see that?

A. I can see that, yes.

Q. And the corresponding obligation of the contractor for contract 1112 is rather similar. It's:

"To provide access for 1111 contractor to install monitoring points and carry out monitoring.

To relocate the monitoring point installed at contract 1111 area if affected by 1111 contractor's works."

Do you see that?

A. I can see that, yes.

Q. Now, the monitoring points here, is it right that it's

to monitor the movement of the structure on each side of the stitch joint?

A. It would seem logical that that is what the monitoring points are for, yes.

Q. Do you have any knowledge as to whether monitoring work has actually been carried out?

A. I don't have any knowledge as to whether monitoring was carried out prior to the original construction, but I know that monitoring was carried out during the remedial works and is still being carried out presently.

Q. I see. And earlier you also mentioned that there is nothing in the contract which provides requirement or guidance to the contractor as to what sort of movement is allowed before one can start doing the stitch joint. Basically, there's no requirement --

A. That's not quite what I said. I said a quantifiable limit. There is a guideline on the drawing, and obviously, as you've pointed out here, in the interface specification. But there is no quantifiable certain amount of millimetres' differential over a period of tile, which could be expected, possibly.

Q. Right. But, as a matter of fact, are you aware of any result of the monitoring work having been submitted to MTRC's designer?

A. In the original stitch joint, I'm not sure, no.

Q. So I have difficulty to understand, in such circumstances, what is the point of doing monitoring?
A. Yeah, I'm not entirely sure -- I mean, it's really a permanent works design requirement to see what the permanent works would be capable of or what differential settlement that it's designed for. But that's not within my knowledge or within Leighton's.
Q. All right. You mentioned in your statement that based on your own observation, there is a gap or a crack. You used the term "crack"?
A. That's right.
Q. But I would prefer to use "gap" because 5 to 10 millimetres is quite wide in reinforced concrete. You mentioned this is what you have observed at joint 1, on the Gammon side of the stitch joint.
A. Exactly, yes.
Q. Would you agree with me that with a gap of that magnitude, it demonstrates that the structure on two sides of the stitch joint have moved or at least relative to each other?
A. Agree, yes.
Q. Have you had a chance to look at the design, the original design of the stitch joint, to see if the reinforcement -- on the assumption that the couplers' connection had been properly connected, would it be able

to prevent the relative movement of the two structures? You haven't checked that, right?

A. I'm not sure. That's not within our scope to check that work. But I assume that that's what it was designed for, yes.

CHAIRMAN: Sorry, I probably misheard. I think the transcription team may have misheard to. To prevent the something movement -- it sounded like a technical --

MR CHOW: Relative movement of the two structures on each side of the stitch joint.

CHAIRMAN: All right. So it's "relative" movement?

MR CHOW: Yes.

CHAIRMAN: Thank you.

MR CHOW: It must have been my fault.

Based on what you have told us, it seems to me -- I'm not sure that my understanding is correct or not -- first of all, we don't know -- we are convinced -- or what you told me is the fact that we have a requirement in the contract requiring the contractor to do the stitch joint only after the settlement is stabilised suggests that the reinforcement itself was not enough or strong enough to hold the two structures together. Secondly, you just confirmed with us that you so far have had no chance to really look at the design of the reinforcement details.

A. Not personally.
Q. So it seems to me that the real cause of the crack or the water seepage perhaps -- of course I don't know for sure -- was due to the excessive movement of the two structures. That is also a possibility; would you disagree?
A. That's true. It's the crack which is caused by the differential movement, yes.
Q. And this is -- it means it is also a possibility that the stitch joint was constructed too early, before the structure on both sides of the stitch joint had stabilised.
A. I would say that's unlikely, only because we did construct at some time after, I think nine months after the original construction, which -- the backfilling had been completed, including the groundwater recharge. It's more likely that it's due to the fact that the couplers weren't connected.
Q. Okay. But it is something that if one wants to make sure as to look into the design and to check the monitoring reading at the time of the construction of the stitch joint --
A. Sure.
Q. -- to ascertain the degree of settlement at that stage --

A. Yes.
Q. -- before one can really conclude the real cause of a gap?
A. Yes, but to be clear, we don't know anything about the permanent works design and we haven't designed it for any -- or taken any consideration for differential movement.
Q. Okay. I would now want to turn to joint 2.
A. Sure.
Q. Earlier, you also mentioned that based on your observation there was no crack --
CHAIRMAN: Sorry, just so I understand -- you have not designed it or taken into consideration in respect of it matters of differential movement?
A. It's not our design. It's permanent works design, so it's the DDC designer, Atkins, working under MTRC.
CHAIRMAN: Thank you.
So the design that you worked on from Atkins had nothing there that required you to take action in respect of differential movement?
A. No. There was no information on that.
CHAIRMAN: Okay.
MR CHOW: Mr Holden, I will now turn to joint 2.
A. Sure.
Q. Earlier, you also mentioned that you observed -- well,

there was no crack formed in joint 2.

A. Yes.

Q. But nevertheless there was water seepage.

A. Mm-hmm.

Q. So your view at the time is that it was caused by failure in the waterproofing system?

A. The permanent waterproofing system, yes.

Q. I just want to understand more about the cause. In the first part of this Inquiry, we had experts in structural engineering.

A. Sure.

Q. According to my recollection, the message that we have got from the expert in relation to the behaviour of the reinforcement inside the concrete -- perhaps you can tell me whether my understanding is right or wrong -- now, reinforcing bar cast or embedded in concrete, if that part of the structure is not under tension, the reinforcing bar would not be stretched and would not be mobilised.

A. Mm-hmm.

Q. Is that --

A. I'm not a structural engineer so I'm not going to comment on that.

Q. Sorry. In that case, if the two structures on each side of the stitch joint have not moved, and then Leighton

came and cast the stitch joint in between --

A. Mm-hmm.

Q. -- and thereafter both sides still remained stationary, ie didn't move at all. It appears to me that the fact that the couplers are properly connected or not connected does not make any difference. Do you agree?

A. Does not make any difference in relation to the water leakage?

Q. Well, in terms of -- the reinforcing bar will remain inside the concrete, embedded in concrete, not subject to any tension force; right?

A. Mm-hmm.

Q. So even if the couplers are not connected at all, in terms of structural behaviour, it makes no difference; do you agree with me?

A. The structure wouldn't be taking any load if there is no movement; is that the point you are trying to get to?

Q. That's right, yes. Do you agree that this is a reasonable interpretation?

A. It seems logical, yes.

Q. So the fact that there was water leakage is not necessarily related to whether the couplers were connected or not; do you agree with me?

A. That's correct, yes. That's right.

Q. Okay. So if it is purely caused by the failures in the

waterproofing measures, that is not the fault of Wing & Kwong -- was it?

A. I'm not entirely sure, but one of the things I mentioned in relation to Mr Pennicott's question earlier was a contributing factor could have been the void in the roof, which is not contributable to Wing & Kwong, I agree.

Q. Okay.

A. So if the waterproofing members, the PVC joint, aren't embedded in concrete adequately, then it will be ineffective, which is not related to the reinforcement, I agree.

Q. Thank you.

Can I now move on to your second statement, paragraph 22(m). In paragraph 22, you provide in summary form the steps and procedures involved in the rebar fixing works and concreting works in the construction of NAT, SAT and HHS. Then you set out in various subparagraphs the various steps. I would like you to focus on subparagraph (m).

A. Sure.

Q. Where you said, "ordering threaded bar and couplers from the relevant sub-contractor", and then you put within brackets "(Leighton)"; do you see that?

A. That's correct, yes.

Q. So your understanding is that at the time it was Leighton's staff who was responsible for ordering threaded bars; is that right?
A. We had the supply agreements with the threaded bar and coupler suppliers, yes.
Q. So, in the case of a stitch joint, would it be -- you have carried out investigation, by now you know that the engineer responsible for that part of the work was Henry Lai?
A. Correct.
Q. So he would be the one responsible for placing order of these threaded bars required to be screwed into Gammon's couplers; right?
A. Correct.
Q. Have you, during your investigation or before today, have you got a chance to talk to Henry Lai as to why he failed to notice that the couplers used by Gammon was a different brand of coupler?
A. Sorry, repeat that question again.
Q. Before today, have you got a chance to talk to Henry Lai as to why he failed to order a properly threaded bar for the purpose of screwing into Gammon's couplers?
A. He has mentioned to me that he wasn't aware, at that point in time, that they were a different coupler.
Q. So you would not expect Wing & Kwong to place order of

this threaded bar, did you?

A. Wing & Kwong provide a material list, a shopping list, of what they require to the Leighton engineer. We have the agreements with the suppliers; we place the order.

Q. Okay. So would you have expected Wing & Kwong to specifically mention about tapered-thread bar to be procured?

A. I couldn't comment on that. I'm not sure how Wing & Kwong normally did their orders with the engineer. I wouldn't know.

Q. Okay.

Paragraph 26 of your second statement, where you talk about the replacement of laps with couplers.

A. Yes.

Q. In paragraph 26, under the third line, you said:

"Laps were indicated on the approved design at the junctions between slab and wall elements."

Do you see that?

A. Yes. That's generally the case for those locations, yes.

Q. Can I just quickly show you a drawing to see whether this is the kind of lap that you are referring to. Bundle DD8, page 11305, please.

Do you see that on the top of the page, in the middle, we see there are two details, which seem to show

the wall base -- wall base detail.

A. It's a typical detail for a slab-to-wall connection, yes.

Q. If you look at the one on the left, we see a marking which says, "See note 2"; do you see that?

A. "LL see note 2", yes.

Q. Do you see that?

A. Yes.

Q. LL stands for lap length?

A. Yes.

Q. So this is the kind of lap that you said was specified or shown in the approved design?

A. Yes.

Q. So this is what's shown in the accepted drawings.

Now, what you have or what Leighton has replaced by couplers -- is it at the connection between walls like that and the base?

A. Generally, the couplers were used in HHS. I think this is an excerpt from one of the AECOM drawings which relates to HHS, although that detail potentially looks like it's an accommodation block, but we use couplers at the stem of the wall, in the trough walls of the track slabs in HHS reasonably extensively, for reasons of access -- access, logistics constraints, and so on.

Q. Can I quickly refer you to another drawing and you can

perhaps confirm whether this is the kind of location in which the couplers were used. Bundle CC10, page 6175, please.

COMMISSIONER HANSFORD: Sorry, while we are getting that, can I just understand -- so typically you would have used couplers, because otherwise there would have been starter bars coming out the ground --

A. Exactly.

COMMISSIONER HANSFORD: -- which would have obstructed access; is that the logic?

A. We had -- because the site, and you have been there, is actually on the other side of the construction site, so we needed to have a track or road, for road vehicles to get through the site, and also for our own logistics of dump trucks and excavators and cherry-pickers and so on. We need to have thoroughfares to access the works, not only for our own works but for designated contractors which were installing buildings services on the existing podium.

So one of the constraints was we needed to have access routes across this 400 by 400 metre long continuous concrete structure and to facilitate that we used couplers at the base of walls so that when we cast the base slab, vehicles could travel over the top, when they were backfilled, to protect it, so --

COMMISSIONER HANSFORD: So if you had not --

A. -- construct the walls later.

COMMISSIONER HANSFORD: So if you had not made that provision, you would have had all these starter bars coming up at, whatever they are, 150 centres --

A. Exactly.

COMMISSIONER HANSFORD: -- and you would have had no access route?

A. That's right. Or difficult to access. You can bend down bars in these locations, but it's preferable to have couplers because you are damage the bars and they are in the way, you need to ramp over the top, and certain diameters can't be bent obviously.

COMMISSIONER HANSFORD: And that's the primary situation where couplers were used where on the drawings it shows lapped bars?

A. Different cases. There's three situations where we use couplers in lieu of laps. HHS is generally that situation --

COMMISSIONER HANSFORD: Yes.

A. -- to facilitate logistics.

NAT we had two situations. One is -- actually, three. There's logistics to get access across the EWL which cut the site in half. We needed to get access through the trough walls. We used couplers in those

locations. We also used couplers at NSL where we had clashes with the ELS, the strutting from the cofferdam. So where they were set at a level, we needed to continue and build the permanent structure within the cofferdam, and where the starter bars clashed with the strut, above the structure that was being cast, we used couplers in those locations.

COMMISSIONER HANSFORD: So that's just where the strut came through?

A. Exactly, so there's a metre or a 2 metre section of the wall where we used couplers. The alternatives are, okay, you can bend bar but that's very difficult because you had to bend it back. You can burn a hole in the strut but that's not desirable because you have to make sure the design is adequate with holes within the webs of these steel members.

The other situation we used couplers in the NAT is in the base slab and in the roof slabs there was up to three layers in the top and bottom mat, and if you're doing one bay and then you cast that and you leave laps, it's very difficult to put the bar that goes at 90 degrees to those within those bars for the adjacent bay or the subsequent bay.

So what we did generally was the base bar that was running longitudinally to the structure we used as

a lap, and then the bars for, say, second and third layer above we used couplers, so we could easily work from the bottom up with the bars that ran across the structure.

COMMISSIONER HANSFORD: And all of these were because the constructability or the way in which it was going to be constructed had not been considered by the designer?

A. That's right, yes.

COMMISSIONER HANSFORD: Okay. Thank you.

MR CHOW: Mr Holden, you will see a drawing shown on the screen. On the top of the drawing, the second detail from the left, I see that we have -- it seems to show the slab, and then we see two couplers and connected to the vertical bars. So does this show a typical arrangement?

A. Sorry, can I just see what drawing this was? This was our drawing, was it? I've lost track of where we were.

Q. I believe so, yes.

A. Yes, okay. It's a Leighton drawing, and it's a Z, which means it's a draft as-built, yes.

Q. So this is the sort of typical arrangement or the situation where lap was replaced by couplers?

A. That's right, yes.

COMMISSIONER HANSFORD: And this is -- sorry to interrupt --

MR CHOW: No problem.

COMMISSIONER HANSFORD: And you said this is a draft as-built?

A. Yes, so we provided these to MTRC as a draft as-built, with indicative locations, because the situation we have is we don't know the precise location of where we use couplers.

COMMISSIONER HANSFORD: Right.

A. We have a general idea, but because we didn't keep the contemporaneous records -- we didn't think we were required to -- we don't have that information 100 per cent accurate. We relied on photo records, people's memory to mark up a draft as-built set of drawings and provide them for information, whether it's couplers or laps; we see they are interchangeable.

COMMISSIONER HANSFORD: So this in some ways goes to Mr Boulding's questions to you earlier about what was included on the as-builts?

A. That's right. So we attempted to compile --

COMMISSIONER HANSFORD: So this is a typical detail of an as-built rather than a specific location?

A. On layout plans, which are part of this drawing set, we've included indicative locations where we have photos, where we know we've got couplers, but we can't say that covers every single coupler that we've used on the job.

COMMISSIONER HANSFORD: I see. Thank you.

MR CHOW: Mr Holden, can I ask, the couplers that Leighton used to replace the laps are the non-ductile couplers, the type I couplers; is that right?

A. So the requirement is for non-ductile type I couplers. But I think in many locations we generally use ductile couplers because that was the stock we had in site, and the price margin between the two is negligible.

Q. Okay. I don't know whether you are aware, there is one issue between the government on one part and Leighton, perhaps also MTR, whether the replacement of the laps by couplers needs to be consulted prior to the execution of the work.

A. Sure, I'm aware of this, yes.

Q. At present, I don't think it is necessary for me to get into a debate with you --

A. Sure.

Q. -- for the time being. Just park this for the moment. What I am more concerned with at this stage is in terms of the level of supervision that is required to be provided in the execution of these couplers --

A. Mm-hmm.

Q. -- the additional couplers that Leighton used.

I'm sure you are aware that in, for example, the platform slabs between -- within the station area, the

platform slab and the diaphragm wall we have ductile couplers being used?

A. In some locations, not in all. I believe in the diaphragm wall there is a clear requirement for ductile couplers, but the slab 2 diaphragm wall, not exactly clear what the requirement is.

Q. And you are aware -- or are you aware of the specific requirements in terms of supervision imposed by the government in relation to the installation of the ductile couplers?

A. Ductile and non-ductile, yes. Ductile, yes.

Q. Also non-ductile couplers, there is also a certain level of supervision required for those non-ductile couplers as well?

A. I understand.

Q. From my recollection, although it is a lower level of supervision, we still need the contractor to provide full-time supervision and need the contractor to assign a specific person as the quality control coordinator?

A. Sure.

Q. And to keep records of what he has inspected, the day, time and what he has looked at, for those non-ductile couplers?

A. Sure.

Q. In terms of quality control and quality assurance, do

you agree with me, for the extra couplers that you used to replace the lap, I cannot see any reason that even lower level of supervision -- or we don't need the same level of supervision to be provided to those other couplers, albeit non-ductile, but shown in the original accepted drawings. Can you think of any reason why the contractor does not need to provide the same level of supervision?

A. We are aware of the requirements. It's a statutory requirement that we need to have a TCP T1 carrying out the inspection, and there is a requirement for a log book which should be available for inspection if required, yes.

Q. Can I take it that in your opinion, for the additional couplers that Leighton used to replace the lap, Leighton ought to provide at least the same level of supervision as those for the non-ductile couplers used in, for example, platform slab?

A. I would say we provide supervision for the works, and the people that were supervising the works were T1 equivalent, or greater.

Q. So your answer so my question is "yes"?

A. Yes, we ...

Q. But you don't know, as a matter of fact, whether the same level of supervision has been provided by Leighton

in relation to these extra couplers?

A. For these, we do. Our supervisor, our engineers, who are responsible for the works, are TCP T1 level and they have carried out inspection and supervision of the works.

Q. Okay. How about the inspection records, date, time, identity of inspector, record set out in log books to be kept on site; have you seen those documents?

A. I think, as we know, we are those for the diaphragm wall. We don't have any log book as such, but we do have some RISC forms.

Q. My last question is in relation to Henry Lai. Now, you have -- after this water seepage was discovered, after your investigation, you no doubt at that stage realised that Henry Lai is the person who was responsible for the inspection of those works; right?

A. Yes. On our side, yes, on Leighton's side, for and on behalf of Leighton.

Q. Yes, for and on behalf of Leighton. And you have also looked at -- after you exposed certain locations of the stitch joint, you looked at how the defective work was like, what it was like. It was pretty obvious to you or to even a junior engineer to realise that there must be something wrong; do you agree with me?

A. Yes. We've seen the photos. It's --

Q. We are now told that Henry Lai was promoted shortly after this matter was discovered.

A. Sure.

Q. Did it surprise you?

A. No, not particularly. I wasn't involved in his promotion or his review. He wasn't directly reporting to me at that point in time, so I wasn't really actually aware of his position prior or after. So I can't really comment as to whether I was surprised or not.

MR CHOW: I have no more questions for you. Thank you very much.

WITNESS: Thank you.

MR LIU: I have no questions.

CHAIRMAN: Thank you.

Re-examination by MR SHIEH

MR SHIEH: Just very briefly by way of re-examination.

Mr Holden, you remember being asked by Mr Chow behind me about relative movement between the two structures on 1111 and 1112?

A. Yes.

Q. You remember being asked about monitoring?

A. Yes.

Q. The broad point, as I understand, put by Mr Chow was whether or not there could -- whether or not it was possible for the cracks to be formed because of relative

movement between the two structures.

A. Yes.

Q. Do you remember that line of questioning?

A. Yes.

Q. I want to ask you first of all: are you personally aware of which entity was responsible for monitoring the question of settlement or extent of settlement of the two structures?

A. I'm not sure about this specific location, because I wasn't -- but Leighton do have a responsibility for monitoring.

Q. Right. For the 1112 structure or the 1111 structure?

A. I'm sure there's a requirement to do both, but looking at the Particular Specification that was on there earlier, it seems like there is some obligation to be doing monitoring but across the joint.

Q. Secondly, do you know which entity had the responsibility of making the decision that construction of the stitch joint could commence?

A. Ultimately, it must be MTRC, because they are responsible for the permanent works design. In the absence of any other specific requirement to do a differential settlement, they ultimately need to give approval.

MR SHIEH: Thank you very much. I have no further

questions.

COMMISSIONER HANSFORD: I just have one question.

What is an interface manager?

A. It's a person that's on the project that looks after/coordinates between the different jobs -- different projects, sorry. So it's more of a coordination role that will facilitate meetings between adjacent contracts, particularly on this job, where one of the jobs that the interface manager was involved in was interface with the live railway. So we had particular requirements working adjacent to or on live railways. So that was his role.

COMMISSIONER HANSFORD: Right at the beginning of your evidence, Mr Holden, Mr Shieh took us to an organisation chart. Can we go back to that chart. I don't know what number it is.

MR SHIEH: CC2/526.

COMMISSIONER HANSFORD: If we look in the green area to the left, we see "Interface manager Anthony Yam"?

A. Yes.

COMMISSIONER HANSFORD: Did he have any role in relation to the interface between 1111 and 1112?

A. No. Anthony Yam is an E&M background. At this period of the contract, we were having a fair amount of interface with 1173 which is the designated contractor

for the building services. So his primary role was facilitating their works in parallel with ours. That was his role at the time.

COMMISSIONER HANSFORD: Right. Okay, thank you.

CHAIRMAN: Good. Thank you, Mr Holden.

WITNESS: Thank you.

CHAIRMAN: That's your evidence completed. Thank you for your assistance.

WITNESS: No worries. Thank you very much.

(The witness was released)

MR SHIEH: The next witness is Mr Joe Tam.

MR TAM CHI MING, JOE (affirmed in Cantonese)

Examination-in-chief by MR SHIEH

Q. I think we can start while you wait for your water.

A. Yes, okay.

Q. Mr Tam, thanks very much for coming.

For the purposes of this Commission of Inquiry part 2, you have made three witness statements. Can I first ask you to look at bundle CC1, page 81.

A. 係。

Q. This is your third witness statement. And if you can turn to page 87, we can see your signature on that page?

A. 係，係。

Q. Next, can I ask you to look at bundle CC6, page 3784.

A. 係，係。

Q. This is your fourth witness statement; do you see that?

A very short one. If you turn over the page, at 3785, your signature appears on that page?

A. 係，係，yes。

Q. Then at CC10, page 6536 --

A. 係。

Q. -- that is your fifth witness statement, and your signature appears at 6538?

A. 係，係，係。

Q. Do you put forward the content of these three witness statements as your evidence in this Commission of Inquiry?

A. 係，係。

Q. Thank you. In terms of organisation chart, please look at CC2, page 526. You can see the blue "MTRC" box on top; yes?

A. Mmm.

Q. And if you look at maybe around 4 o'clock to "MTRC", you can see yourself, "Project manager Joe Tam"; do you see that?

A. 係。

Q. So that accords with your understanding as to your place in this organisation?

A. 係。

Q. Thank you very much. There is one very small point which was touched on during one of the earlier

examination of witnesses. CC6. Can I ask you to look at CC6 again, at 3785. This is your fourth witness statement, paragraph 5. Do you see that? Paragraph 5.

A. 係。

Q. If you look at the third line, there's a sentence which starts:

"I spoke to every team under my supervision."

I think, in one of the earlier questions put by one of the counsel for some party -- I think Mr Pennicott --

MR PENNICOTT: It was me.

MR SHIEH: -- he read the sentence, "I spoke to every team under my supervision", and he thought that what you meant was "every team member under my supervision", but do you actually mean "every team" or "every team member"?

A. 每一隊囉，咁裏面可能有幾個成員，但係我唔係同晒全部嘅人，但係個leader咁樣，或者負責做呢樣嘢嘅人講囉，係。

MR SHIEH: Thank you very much. Please remain in the witness box. Mr Pennicott for the Commission may have questions for you, and other counsel may also ask you questions, and Mr Chairman and Commissioner would also have their questions for you. After that, I may or may not have follow-up questions for you. So please answer all those questions.

WITNESS: 知道。

Examination by MR PENNICOTT

MR PENNICOTT: Good afternoon, Mr Tam.

A. 你好。

Q. Thank you very much for coming to give evidence to the Commission this afternoon.

We saw on the organisation chart just a moment ago, which was for May of 2017, that you were described as the project manager. My understanding is that you were the construction manager. Is that right?

A. 係，construction manager，係。

Q. And you were the construction manager for the NAT area of the site from January 2015 to July 2017; is that correct, Mr Tam?

A. 係。

Q. In paragraphs 3 to 9 of your third witness statement, you summarise the duties that you had and the work that you did as construction manager; is that right?

A. 係。

Q. And part of your duties, as I understand it, Mr Tam, were, because you were dealing with the NAT area, you had responsibility for a number of interface matters, such as the stitch joints?

A. 係。

Q. Could you repeat your answer, please?

A. 係。

Q. Does it follow from that, Mr Tam, that you are familiar with the interface requirements that are set out in the contract between MTRC and Leighton?

A. 我諗知道囉叫做，係。

Q. Because I'd like to look with you, please, at part of those requirements. If we could go to BB1/420.

On the front sheet, if you just stick at page 420 for the moment, Mr Tam --

A. Yes.

Q. -- that's appendix Z2, "Interfacing requirements specification with civil contracts"?

A. 係。

Q. No doubt it's some time since you looked at this document, but are you generally familiar with it and were you familiar with it back in 2016/2017?

A. 睇過囉，係。

Q. Could I ask, please -- if we go to the next page, and one more, please -- and what it says here, Mr Tam, is:

"This interface requirements specification identifies the primary interfaces that are anticipated to arise between Contract 1111 and Contract 1112 during the execution of the Works and sets out their respective responsibilities and obligations in respect of such interfaces."

If we could scroll down, please, and stop there. At Z1.6 it says:

"This document has been developed on the basis of the following construction sequence:

-- Cofferdam wall installation at the interface will be completed by Contract 1111 ahead of the interfacing Contract 1112 works.

-- Completion of the tunnel connections will be by Contract 1112."

Obviously we will be discussing that in a moment, and then:

"-- Utilities crossing the interface will have connection points constructed by the first Contractor to occupy the area with connection made by the second Contractor."

Do you see all that, Mr Tam?

A. 睇到，係。

Q. Then if we could scroll down, please. Stop there, thank you.

Z2.2:

"The interface shall generally comprise the following:

Structural interfaces;

Temporary works interfaces;

Tunnel drainage interfaces;

Utility interfaces ...

Testing and commissioning interfaces."

Just to put this point to you, so that everybody is

under no illusions, the stitch joints we are going to discuss in a moment were just one of the interface matters. There were a number or a broad range of interface issues that you were also responsible for; is that right?

A. 係，係。

Q. We heard from one of your former colleagues yesterday, Ms Wong, who talked to us a little bit about the cofferdam, and she said that this is one of the more important issues, and perhaps that's something you agree with -- is it, Mr Tam?

A. 係，係。

Q. If we could then go on to the next page, please, and if we could shrink that a bit -- thank you very much -- this is where we find the obligation upon the 1112 contractor to do the stitch joints. Do you see that at 1.4, Mr Tam, in the second column:

"To complete the stitch joint, including Omega seal, rebar and infill concrete, after tunnel backfilling and stabilisation of tunnel settlement."

Do you see that?

A. 睇到。

Q. Then if you could go to 1.7. I'm tempted to ask Prof Hansford to take over the questioning at this point, but I won't. You will see there, Mr Tam, that there's a reference, underneath the "1111 contractor"

column, which says:

"To carry out joint inspection of the waterproofing system, couplers and protection measures to couplers provided at the interface work."

And then in the "1112 contractor" column it says:

"Provide access and attendance to 1111 contractor for joint inspection of the waterproofing system, couplers and protection measures ..."

Now, first of all, Mr Tam, was it your understanding that there was to be a joint inspection of those items prior to the construction of the stitch joints?

A. 睇呢度，係呀，係。

Q. Do you know whether, as a matter of fact, there was such a joint inspection between Leighton and the Gammon-Kaden Joint Venture?

A. 唔知，我唔知道有冇發生到，但係平時其他嘢都會有啲共同視察，但係單單一個case就唔係--唔知囉，係。

Q. Right. So you personally are not aware of whether there was in fact any such joint inspection?

A. 你話視察嗰個coupler吖嘛，同埋嗰個防水吖嘛，係咪？

Q. I am, yes, about this, what this says on this piece of paper here.

A. 我唔知道有冇一齊去睇。

Q. Did you not regard it as part of your responsibilities as the construction manager to ensure that there was

such a joint inspection?

A. 因為佢哋--佢有日常有好多嘅一齊嘅視察嘅其實，我唔知道--即係我冇被通知我去呢個視察吖嘛，所以我唔知道有冇去做呢個視察。

Q. All right.

If we could go back to the organisation chart, please, at CC2/526, and if we just go up very slightly. That's fine, that's good, thank you. Perhaps we could just go to the left of it, please; that's fine, thank you.

Mr Tam, we see you there at the top of a number of vertical lines where a good number of people appear. We see different teams that you have there -- five different teams, is that, altogether?

A. 係。

Q. So you are the head, in charge of all these people, all these teams; is that right? They are all answerable to you?

A. 可以咁講。

Q. Right. If we go up so we can see the top, please, and you, as I understand it, would report to, in this instance, Mr Rawsthorne, who was the project manager at the time; is that right?

A. 係，係。

Q. So would this be fair, Mr Tam, that you are effectively the link, the important link, between all these teams

and what might be described as the senior management at Leighton that we see on this chart?

A. 係。

Q. Mr Tam, did you see it as your responsibility to ensure, for example, that the engineering resources that Leighton deployed to the NAT area were sufficient?

A. 唔單只北面，全部都係，係咪呀？

Q. Okay. But did you regard it as your responsibility to make sure the work that you were responsible for was properly resourced?

A. 係。

Q. Right. And that the personnel that were deployed to do the work were properly and adequately qualified?

A. 係。

Q. And if any of the personnel for whom you were responsible, who were answerable to you, indicated to you that they were overstretched, overworked, presumably you saw it as your responsibility to investigate that, look into it and do something about it?

A. 當然喇。

Q. In your fourth witness statement -- that's at CC6/3784, paragraph 4 -- you say that on or around 24 March 2017 you became aware that formal joint inspections by Leighton and MTR had been completed, while some of the relevant RISC forms were still outstanding, when you

were copied in on an email dated 24 March from Mr Kong of MTR.

Do you see that?

A. 睇到。

Q. We'll look at the email in a moment, but before we do that can I ask you this. Before 24 March 2017, were you aware, Mr Tam, that there was a serious lack of RISC forms, that a very significant number of RISC forms that should have been issued in relation to the works on the NAT had not been issued? Were you aware of that before 24 March?

A. 唔知，唔知。

Q. So you did not think it part of your responsibilities to monitor whether or not RISC forms were being issued by the staff that were required to issue them?

A. 我反而會覺得--當然喇，一定有責任，但係個問題係我唔可以知道晒全部嘢，因為其實都有好多唔同嘅渠道或者唔同嘅會議，但係我呢一次呢一個3月--2017年3月嗰個係第一次聽到。

Q. All right. If we could just -- we've looked at the email a couple of times already but let's just have a look at it. C10/6208, please.

A. 係。

Q. If we could scroll down, please. Mr Tam, we see that you were indeed copied in on this email. Your name is right at the end of the fifth line of people to whom

this was sent.

A. 係，見到。

Q. If we could scroll down, please, there is the email itself. I'm not going to read it all out; we've read it a couple of times already.

Now, Mr Tam, you say that upon reading or receiving that email, and over the next few days, you spoke to your team members or some of your team members in person on an individual basis. You reminded them that going forward they should submit the RISC forms immediately. You say that you met Kenneth Kong, that's the sender of the email, of MTR a few days later. You followed up on whether there had been any improvement and he told you that there had been some -- there had been improvements.

After that conversation with Mr Kong, Mr Tam, did you continue to monitor/keep an eye on the RISC form situation?

A. 講完，同同事講完之後，同江生講完咗之後，我得到個回覆就係話有改善，隨後喺嗰段時間，我都有睇過有冇入到form，情況係有改善到嘅。

Q. Right. How long did you continue to monitor the situation?

A. 我唔記得咗，因為有好多唔同嘅嘢要去跟進。

Q. I ask that, Mr Tam, for this simple reason, that we know that in July 2017, so just three or four months after this email, the original stitch joints in the NSL,

that's the interface stitch joint and joint number 2, the internal stitch joint, were constructed, and no RISC forms were issued in relation to either of those two stitch joints. You are now aware of that, I assume?

A. 當然。

Q. So does it follow, Mr Tam, that by July at least you were not following up and ensuring that the RISC forms were being issued by your teams?

A. 你講2017年之後吖嘛？

Q. After 24 March 2017, we've established I think from you that you checked and you detected some improvement, an improvement in the RISC form situation?

A. 係。

Q. What I'm putting to you is that by July, when these important stitch joints are being built, there were no RISC forms in relation to those stitch joints. So were you not monitoring the situation constantly? Did you just stop monitoring the position?

A. 冇再check囉，係。

Q. Do you recall, following the receipt of the email that we've just looked at, that you spoke to an individual called Henry Lai? Did you speak to him?

A. 應該有，係。

Q. You say you suppose so. It's quite important, Mr Tam. Do you have a recollection of specifically speaking to

Mr Henry Lai after receiving this email?

A. 因為嗰時係--淨係睇個organisation chart，有好多人喺下低，唔係同每一個人都傾過，但係每一team都會有一、兩個人都會同佢傾過，佢可能係當中其中一個，因而嗰時都有一、兩個同事喺度，我唔exactly肯定係咪同佢講呢樣嘢，但係可能有。

Q. Well, when you were deciding who to speak to, presumably part of your thinking would have been: well, who amongst my team is actually responsible for issuing these RISC forms? Can I identify them? Because surely they were the key people to talk to; is that right?

A. Exactly，係呀，但係所以我唔肯定係咪100%，你問我係咪肯定吖嘛，但係我記得就應該有同佢傾過，咁一百分之一百，我太耐記唔到。

Q. Right. But if you had done your thinking, you would have identified him as somebody who was responsible for issuing RISC forms; yes?

A. 我絕對明白，但係因為時間太耐，我相信係有嘅，但係你話係咪肯定，肯定，肯定，呢個就我唔能夠完全肯定。

MR PENNICOTT: All right.

Sir, I see it's 3.40. I'm about to go on to something else.

CHAIRMAN: Yes. Ten minutes?

MR PENNICOTT: Yes, sir, that's fine.

CHAIRMAN: Thank you.

MR PENNICOTT: Sorry, sir. Just ...

CHAIRMAN: Yes, thank you very much.

Mr Tam, you are giving your evidence at the moment and we're having a short break. You are not permitted, by the rules of this tribunal and of courts generally, to discuss your evidence with anybody until it is completed. Okay?

WITNESS: 知道。

CHAIRMAN: Thank you.

(3.41 pm)

(A short adjournment)

(3.53 pm)

CHAIRMAN: Yes.

MR PENNICOTT: Thank you, sir.

Mr Tam, let's press on. Mr Tam, can I ask you just a few general questions about the inspections that your engineers carried out, particularly in relation to the rebar fixing works.

We've heard from in particular Henry Lai, but one or two other engineers as well, that they were responsible for carrying out what have been described out informal or routine inspections, but also responsible for carrying out the formal or hold-point inspections. So the same engineer would be doing both jobs or both tasks. Do you understand?

A. 明。

Q. Did you ever think to yourself that it would be a better system if you had one engineer, perhaps a more junior

engineer, doing the routine, informal inspections, and perhaps a more experienced senior engineer doing the hold-point, formal inspections? Did you ever think about that?

A. 冇，好坦白，冇咁諗過，因為其實呢個制度，呢個咁嘅inspection，唔係話淨係今天係咁樣做，我諗相信持之以恆，其實好多年前或者由我初初入行到而家都係有啲工程師同埋啲顧問公司一齊去做嗰啲檢查，其實不嬲都係咁做。

Q. All right. Looking back on things now, Mr Tam, and leaving aside my point about junior and more experienced, do you think it would be better, safer, to have at least two different people doing the informal and the formal inspections?

A. 我會相信其實而家有兩個唔同嘅人，一個係承建商代表，一個係業主代表，其實都已經可以叫足夠，當然話唔同多啲人，十個人一齊睇，唔同人去唔同時段睇，咁一定係好過佢一個人一個時段去睇，呢個永遠不爭嘅事實嚟嘅，但係兩個係咪已經足夠呢？我相信係會足夠。

Q. When you say two are adequate, that's because there's somebody from a contractor and somebody from MTR; is that right?

A. 係，係，係。

Q. I'm not suggesting there should be ten people. All I'm suggesting is that there should be different people from Leighton, one doing the informal and one doing the formal, but your answer to that is, "Well, it's always been done the way it was"?

A. Mmm.

Q. Yes?

A. 係。

Q. All right. Can I ask you, please, to look at paragraph 12 of your third witness statement. That's at the bottom of page CC1/83. You say in paragraph 12, Mr Tam:

"The construction drawings did not specify the rebar size for the stitch joints at the SCL1111 side of the interface. Therefore, Leighton submitted a request for information (RFI) to MTRC in May 2016."

I'm going to take this a little bit slowly, Mr Tam, because I think this might be the first time we've looked at this RFI.

"Under item 3 of the RFI, Leighton asked for the RC details for the stitch joints at the SCL1111 side of the interface. MTR issued a reply in June 2016, showing the couplers at both sides of the stitch joints, although the size was not specified ... in the second ..."

Then you give a reference. Pausing there, could we look at that RFI, please. It's at CC6/3333, at least it starts there.

This is the RFI from Mr Plummer to Mr Kit Chan; do you see that?

A. 睇到。

Q. If we scroll down to the bottom, please, we see that

this RFI was prepared by Billy Ng and reviewed by Mr Plummer, and also reviewed by you, Mr Tam; is that right?

A. 啱。

Q. If we then could scroll back up again, please. Thank you.

Without going into enormous detail here, Mr Tam, the request is this:

"Please clarify the followings for stitch joint".

And a number of detailed requests are made with regard to the stitch joint, and you are trying to find out from MTR certain information, and in particular, at number 3, you say:

"Please provide RC detail for the stitch joint".

And that presumably must be -- sorry, and then you also say:

"Please also advise the following", and then there's a question about differential movement. You ask a question about backfilling. Then at 7, you say:

"As no stitch joint of shunt neck shown on drawing ... please confirm stitch joint is not required at shunt neck."

So a series of detailed queries to the MTR about the stitch joint; yes?

A. 唔。

Q. This is in May 2016. So would I be right in thinking

that you, Mr Tam, were turning your mind to the fact that these stitch joints had to be constructed, sometime perhaps not in the far too distant future, and therefore you were looking into the whole question of the details that were required and you came up with these questions to the MTR? Is that how it was?

A. 係。

Q. And do you recall what prompted the RFI, at this time, as opposed to a month before or a month later? Was there anything that triggered the sending of this RFI at the time?

A. 有疑問咪發出RFI。

Q. But apart from the general point that I put to you, that the stitch joints obviously were going to have to be constructed at some point in the future, was there nothing -- there was nothing specific that triggered this RFI at this time? It was just the general point that you knew that these had to be constructed and you needed to look into the details?

A. 當我哋睇到啲細節有問題嗰時，咪會發出個RFI囉，可能我哋做啲--會做啲準備工夫，唔係話即刻可以做起就即刻起，當我哋睇嗰啲結構圖則嗰時，咁咪見到有疑問，就會去問問題。未必真係話就嚟起，但係可能有啲嘢誘發到嗰一剎那，要去做呢樣嘢，或者嗰樣嘢差唔多要做，我哋都要檢視下啲圖㗎嘛，呢個就係慣常嘅做法。

Q. I understand. And were you -- we see you reviewed this

RFI, so you were personally involved in looking at some of this detail?

A. 係，係。

Q. Okay.

When you prepared this RFI, did you review the minutes of the interface meetings that had taken place prior to this RFI?

A. 係呢啲RFI--我唔--個時序我唔係好肯定，但係我間唔久都會有睇過啲會議紀錄。

Q. Right. Before you prepared this RFI, Mr Tam, did you speak to anybody who had attended the interface meetings prior to May 2016?

A. 一個時序，應該都會有嘅，係，有，有。

Q. Right. Now, by this time, Mr Tam, it was known and recorded, at least in general terms, in the interface meetings, that the 1111 contractor would be using Lenton couplers at the stitch joint, and I expect you will remember that now?

A. 係，係。

Q. We do not see, do we, in amongst your queries, any question to the MTR regarding the couplers and the rebar fixings to be used by the 1111 contractor?

A. 因為其實喺--我要首先第一樣，我要睇睇個時序先，其實我唔係好記得個時序係--嗰個minute係幾時講嘅，話佢用Lenton嗰個係。

Q. Okay. Let's look at CC2/739. In fact, if we could

start -- pick it up at page 756. That's meeting number 8.

So this is meeting number 8 at 756, Mr Tam, way back in December 2014. Do you see that?

A. 睇到。

Q. We've looked at this minute already a couple of times. You will see at 8.4.2 that proposed material submissions were made by the GKJV, and one of them was -- one of them related to the mechanical splicing system of rebar. Do you see that?

A. 睇到。

Q. If you then go over the page to 763, that's an annex to these meeting minutes, where there is a contractor's materials related submission form, submitted by the GKJV to MTR, and it makes reference to the fact that Lenton type A2 standard couplers for non-ductility coupler requirement are to be used. Do you see that?

A. 喺度睇到。

Q. Do you have any recollection of seeing those minutes and that annex at the time, back in 2014/2015/2016?

A. 14年我未去到嗰個地盤，第一樣；第二樣嘢就係其實我認--我知道就係喺好後期、好後期之後佢先至係有個--真係有個好confirm嘅落實，就話係咩嘢size，用咩嘢嘅coupler，會實係。之前其實只不過係好簡單嘅簡介咋好似係。

Q. Yes. And that revision was made at meeting number 19 which you will find at page 847 in the same file, which

we looked at with Ms Wong yesterday.

A. 係。

Q. So this was meeting number 19, held on 6 January 2016, so five months before you issued the RFI, in May 2016; do you see that?

A. 係，睇到。

Q. Okay. And do you remember -- we can look at the relevant minute, which is at page 849, and we've already looked at the revision that was made to the minutes, with the introduction of the words "T40 coupler is BOSA; others are Lenton".

Do you recall reviewing these minutes, Mr Tam, back in January 2016?

A. 我記得--我知道呢樣嘢囉，係。

Q. You were aware of this at the time you wrote your RFI in May 2016?

A. 應該係，係。

Q. Okay. But you didn't raise any specific questions in relation to the couplers with MTR?

A. 我諗第一個分別就係呢個--佢其實--佢都呢度有講，有T40 BOSA，係咪呀？T40 BOSA喇，首先第一樣嘢，我係咪要應該知道--我需要知道嘅就係佢用咩嘢size先喇佢哋嗰面，咁先至有得問佢其他嘅嘢㗎嘛，係咪呀？呢個就係我諗出個RFI嘅目的，我問佢嗰啲鐵係啲乜嘢嘢，佢答咗我，我隨後我就可以知道我哋有啲嘢係咪共用，係咪可以通用到。

Q. I'm sorry, can we go back to the RFI.

Where did you ask them about the rebar, or the couplers for that matter, in the RFI?

A. 第3點。

Q. So, "Please provide RC detail for the stitch joint"?

A. (Nodded head).

Q. Right. So that, you say, includes a request for information regarding the rebar and the couplers. All right.

Let's see what answer you got to that. Can we scroll down, please. There's an answer somewhere. Actually, this is where you need a hard copy.

COMMISSIONER HANSFORD: Presumably, it's in the next section, is it?

MR PENNICOTT: It might be, but without operating the thing myself, I can't --

COMMISSIONER HANSFORD: I mean the next page, the one we just looked at, 333 --

MR PENNICOTT: Go to the next page, please. Back to the RFI, the next page.

COMMISSIONER HANSFORD: It will be 3334, won't it?

MR PENNICOTT: It's possible.

COMMISSIONER HANSFORD: It should be 3334, or 335 maybe.

MR PENNICOTT: We've got it here. 3341.

Right. This is, I think -- sorry about the delay; my fault. This is the reply that you received to that RFI, Mr Tam; do you see that?

A. 睇到。

Q. It was sent by somebody called Kappa Kang. Do you remember her?

A. 記得。

Q. What she says is:

"For item 1, 2, 3" -- so 3 is the one that you're focusing on -- "please refer to advanced DAmS [that's design amendments] sketches of DAmS 390 for construction. Formal DAmS will be issued to you shortly."

Do you see that? So that's the answer you got for, amongst others, number 3; yes?

A. 係。

Q. And then presumably you looked at the DAmS, the drawings?

A. (Witness nodded).

Q. And did they satisfy you that you -- sorry, were you satisfied that you had been given the information that you asked for?

A. 我見到--收到我哋嗰面嘅鐵，但係就畫番同一個symbol喺佢哋嗰面嗰度，我覺得係大家都係一樣嘅，知道，應該可以，係。

Q. Okay. So that was the conclusion that you drew?

A. 唔。

COMMISSIONER HANSFORD: Does it show the bar diameter?

MR PENNICOTT: Well ...

Could you look at the drawings, Mr -- could you tell us, Mr Tam, what you looked at in order to derive that conclusion?

CHAIRMAN: Perhaps --

A. 因為DAmS 390唔係得咁少圖，仲有多啲其實。

MR PENNICOTT: They are there not? Okay.

COMMISSIONER HANSFORD: Just while we are pondering that, it's interesting to see what it says for item 4, because that's referring to differential movement. We were asking questions earlier about --

MR PENNICOTT: We were.

COMMISSIONER HANSFORD: -- differential movement that would be allowed before the casting of the stitch joint, but this is not an answer to that.

MR PENNICOTT: It is an answer, yes, or it appears to be an answer, yes.

Mr Tam, on the question of the rebar and the couplers, are you telling us that there's nothing on the three or four drawings that are attached to this email that help you?

A. 係呀。

Q. But, as I understand it, from your recollection, you say that you concluded that it was the same rebar that was being -- that would be required, the same rebar that you were using on the Leighton side would be appropriate to be used on the Gammon side; is that right?

A. 佢冇直接咁畫到好清楚出嚟，但係嗰時嘅意會就會係咁樣，係。

Q. If it wasn't very clear or direct on the drawings, did you not think to follow up and ask for clarification?

A. 嗰時冇諗到。

Q. Right.

CHAIRMAN: Did you at some later stage think it would be prudent to check?

A. 你意思係--「稍後」嘅意思係而家，嗰時吖，定係嗰時起之前嗰時，revisit番嗰個圖？

CHAIRMAN: Before it was done. Before it was cast, yes.

A. 冇為意到，嗰時已經。

MR PENNICOTT: Had you ever come across -- before you wrote the RFI in May 2016, had you ever come across Lenton couplers before?

A. 係呢單project，定係喺...

Q. Any project.

A. 見過，係。

Q. All right. Were you aware that they were -- they had tapered threads or may have tapered threads?

A. 知。

Q. So, if that's right, and you knew about Lenton couplers, you knew, from the minutes, that the GKJV were or might be using Lenton couplers, and you knew that they might be taper-threaded; is that right? But you made no further enquiries about what rebar you should be

ordering?

A. 係。

Q. And the response that you got to this RFI and the DAmS that accompanied it and then perhaps the formal DAmS that followed, was all that material detail given to Henry Lai?

A. 你話呢啲access到，大家都會access到，答咗，佢話--個system自己會circulate㗎嘛，唔使親手畀嘅。

CHAIRMAN: "The system" was what system?

A. INCITE.

MR PENNICOTT: INCITE.

CHAIRMAN: There was the other one too.

A. ePMS?

MR PENNICOTT: ePMS is the MTR one.

Mr Tam, what we are trying to focus on is this. We know that when it came to ordering the rebar for the stitch joints, Henry Lai, so far as the NAT is -- Henry Lai ordered parallel threaded BOSA rebar; all right?

A. (Nodded head).

Q. We know that.

A. Mmm.

Q. And the question is how that came to be. Why didn't he order the tapered threaded rebar that would have been compatible with the Lenton couplers?

Do you understand the point?

A. 我明白，我明白，係。

Q. And what is your explanation as to why that happened?

A. 做錯咗囉，唔知道佢嗰邊係Lenton，或者唔aware，冇人話畀佢聽有問題。

Q. As I understand it, you accept that you knew that Lenton couplers were being used by the GKJV, because you and others had seen the interface meeting minutes. Is that right?

A. 應該係咁講，我知道佢係會有Lenton，如果係32或以下，呢個Lenton，40係有BOSA，我知道有呢樣嘢，我係聽過有--呢個有Lenton呢樣嘢嘅存在，係。

Q. Right. And it was that fact, that the GKJV were using tapered Lenton couplers, that fact did not get communicated to Henry Lai. Is that it, in a nutshell?

A. 我唔知有冇溝通到畀Henry，但係有呢樣嘢存在，當然有呢個事實發生咗喇，而家呢一刻，嗰刻有冇溝通到就唔知道。

Q. Did you personally communicate the fact that the GKJV were using Lenton couplers to Henry Lai? Did you personally communicate that?

A. 我親口冇。

Q. So either somebody else needed to tell him or he had to access certain documentation and work it out for himself? That's really what it comes to; is that right?

A. 會唔會有第三樣係個系統去--呢啲會議紀錄係--應該我認知，應該係Through ePMS畀我哋㗎嘛，係咪呀？就唔係個別email㗎嘛，如果你on the hindsight去睇，而家呢一刻，唔係所有嘢要靠人傳人去傳嘅，

如果個系統係咁樣，which is唔係一個好嘅系統，係咪呀？

COMMISSIONER HANSFORD: I don't think Mr --

CHAIRMAN: Sorry, I don't understand.

MR PENNICOTT: Neither do I.

WITNESS: Okay. 你淨係話有...

MR PENNICOTT: Try again, Mr Tam.

A. Okay，你話係咪要--佢要自發去搵一啲嘢吖嘛，或者係要由我去同佢講，或者用人同佢講吖嘛，我話可能會存在第三樣嘢，就係如果個會議紀錄可以係circulate到畀晒全部人嘅，呢個其中一個way，唔使要去自己去搵，因為存在有第三個行為吖嘛。

MR PENNICOTT: All right.

CHAIRMAN: All right. Could I ask this. Were the engineers who were tasked with doing work such as stitch joints, which automatically had to have an interface element in them -- were they trained that they should appraise themselves of interface meetings before committing themselves to any kind of work?

A. Sorry，可唔可以再問多一次？我唔係好...

CHAIRMAN: What we know is we have the stitch joints. Stitch joint work comprises, necessarily, interface issues, and there were interface meetings. Your engineers, the young Leighton engineers, in this case Henry Lai, people like him, were they trained or were they instructed that when they took on stitch joint work or work that would have an interface element, that they

would have to go back over the minutes of interface meetings to draw from those minutes all relevant information concerning the construction of the stitch joints?

A. 係。

CHAIRMAN: They were told that?

A. 需要呢樣嘢。

CHAIRMAN: No, no. A different question. Not they need to do it. Were they, unambiguously and clearly, as fairly junior, young engineers, instructed that whenever they had this type of work which had an interface element, that they should go back over the relevant minutes in order to try to draw from the minutes whatever they needed to do their work?

A. 我諗冇，嗰時。

MR PENNICOTT: So let's retrace our steps slightly, Mr Tam. How do you say Henry Lai ought to have been informed that the GKJV were using Lenton couplers?

A. 如果睇番有啲會議紀錄，應該係地鐵通知番晒我哋全部人，我哋可以就通知佢，應該地鐵會畀番啲資料我哋，但係而家好似係--如果我睇番啲correspondence，見到就係某一、兩個人先有呢啲咁嘅資料，所以which is係可能就係咁樣漏咗，佢冇嗰個資訊。因為淨係話到嗰啲嘢，如果去到我哋INCITE度嘅，其實自動會circulate晒所有有關人去睇到。

Q. But that seems to me to effectively be saying that Henry Lai should have looked at the meeting minutes but, in

answer to the Chairman's question just a moment ago, you've indicated that he certainly would not have been told to do that, he certainly wouldn't have been instructed to do that.

A. 可以係咁講。

CHAIRMAN: In earlier evidence, one of the witnesses today said that there had been a breakdown in communication. Would you agree in respect of this particular matter that there had been a breakdown in communication?

A. 相信係。

MR PENNICOTT: Yes. Sir, I have no further questions.

Cross-examination by MS LAU

MS LAU: Good afternoon, Mr Tam. I represent Wing & Kwong and I'd just like to ask you a few questions.

I think it's now been established that you were the construction manager of the NAT area during its initial construction stage; is that right?

A. 應該唔只北面。

Q. But including NAT, you would agree?

A. 係。

Q. And during that period of time, Henry Lai was one of the engineers under your charge; correct?

A. 係。

Q. But after July 2017 you were transferred to another project; is that right?

A. 係。

Q. We've heard evidence from Mr Jonathan Kitching who told us that when he learnt of the defects at the NAT stitch joints and the shunt neck joint area, he reached out to speak to you. Do you recall having this conversation with him?

A. 記得。

Q. Was that the first occasion on which you learned of the fact that there were defects in the works of the stitch joints and the shunt neck joint?

A. 你意思係Jon搵我傾嗰時，嗰次係第一次知道有問題，係咪？

Q. Yes.

A. 係。

Q. Do you recall approximately when this conversation took place?

A. 唔記得。

Q. In terms of months? Year?

A. 唔記得。

Q. If I suggest to you that the conversation took place in or around February 2018, would you agree?

A. 我諗係咁上下喇，係。

Q. So do you remember what he asked you during this conversation?

A. 唔記得。

Q. No? Nothing at all?

A. 唔記得。

Q. Did he for example ask you why the rebar was not properly connected to the couplers at the stitch joints and the shunt neck joint?

A. 我唔記得具體問啲乜，我諗相信有類似啲咁嘅問題，但係exactly問啲咩嘢，我真係唔係好記得，因為好--太耐。

Q. So if that was the first occasion you learned of the improper or inadequate connection at the stitch joint or shunt neck joint area, presumably you would have been shocked?

A. 係，係。

Q. So suppose that Jonathan Kitching did ask you why the rebars were not properly connected -- do you recall what did you say in reply?

A. 我真係唔記得點樣答，係。

Q. Can I ask you to please turn to CC page 86. That's your third witness statement. Paragraph 25.

Sorry, not that witness statement. The first witness statement of Jonathan Kitching. Page CC6488, at paragraph 10.

You would see at paragraph 10 that it says:

"Around the same time, I spoke to Mr Joe Tam, who was the construction manager for the NAT at the time that the NAT stitch joints and the shunt neck joint were constructed. Joe was Henry's supervisor at that time.

I asked Joe the same type of questions that I asked Henry. I cannot recall the exact words of the conversation but the gist of Joe's response was that he was not personally involved in supervising the works at the NAT stitch joints and the shunt neck joint and he did not know anything about the issues."

Having looked at Kitching's statement, would you agree that this is -- this was what you responded at the time?

A. 我諗可能有個問題喺個supervising，咩嘢意思係supervising嗰樣嘢，其實我嗰時仲喺嗰度，我都仲有份嘅其實，係，唔同意囉，簡單啲講，係。

Q. So you were saying you were personally involved in supervising the works?

A. 睇下先呀，sorry，畀我少少時間望一望寫咩嘢字先。唔係好記得，其實呢個。

Q. So assuming you were also personally involved in the supervision of the NAT stitch joints and shunt neck joint area, you would agree, would you not, that Henry Lai was the person directly responsible for the initial construction of those joints?

A. 係。

Q. Well, did you then, in that conversation with Mr Kitching, refer him to Henry Lai, the person being directly responsible for that part of the construction?

A. 我相信佢已經有搵。

Q. I see. Have you, after that conversation, thereafter

had any other conversations with Mr Kitching on this issue, on the defects in the construction joints -- shunt neck joint and the stitch joints?

A. 應該冇。

Q. So that was the only conversation you've had with Mr Kitching?

A. 可能係。

Q. Now can I please ask you to look at page EE271. This is a letter sent by ...

A. 係。

Q. This is a letter sent by Leighton to Wing & Kwong, the rebar fixing sub-contractor, dated 12 February 2018. If you read the body of the letter, it says Leighton has noticed that there are "significant water leaks and structural cracking at the reinforced concrete stitch joints at the NAT NSL and EWL Tunnel and trough structure respectively".

They said that investigations are underway and they told Wing & Kwong that should the cause as ascertained be due to Wing & Kwong's defective work, then they would seek to recover all costs incurred in accordance with the terms of the sub-contract.

Do you see that?

A. 而家有。

Q. Have you previously seen this letter?

A. 應該冇。

Q. Now can we move on to page EE291. Sorry, 290 first. This is a letter dated 26 February 2018, sent by Wing & Kwong to Leighton.

If you cast your eye to the bottom of the page, three lines from the bottom, it says:

"To make sure the connection is either coupler with parallel threads or with taper-cut threads so as to prepare the relevant materials to carry out the work at all time, our Chun has inquired your Henry in February 2017. We received a reply from Henry that he did not know the details of contract no. 1111."

If we then skip to the next paragraph, it says:

"The captioned work was launched in July 2017. After the concrete surface had been hacked off ... the connection was found to be coupler with taper-cut threads. Our Chun stated right away that the rebar we prepared according to Leighton's information which could not tighten into the coupler completely. However, according to the verbal instruction given by Leighton, there was not enough time to rethread the rebar and your company urged our side to try our best to tighten the rebar which are parallel threads into those couplers."

In that letter, the instruction that was said to be given was said to be given by Henry Lai. Have you --

CHAIRMAN: Sorry, bear with me just a second. I'm not sure

if that needs to be translated, does it?

Has it been translated? It has. Sorry.

MS LAU: Presumably you haven't seen this letter previously either?

A. 係，yes，係。

Q. You haven't seen it?

A. Haven't seen it.

Q. Moving on -- sorry, let me just check.

So Jonathan Kitching did not show you this letter during the conversation?

A. 應該冇。

Q. But you would agree that if this was an allegation made against Henry Lai, it was a very serious allegation?

A. 睇封信，係。

Q. An allegation that goes directly to his professional integrity as an engineer; would you agree?

A. 封信係。

Q. So presumably you would have expected Jonathan Kitching or anyone within Leighton's senior management to properly investigate into the matter, would you not?

A. 係。

Q. Okay. Moving on to the next topic. I'd like to ask you, during the initial construction of the stitch joints and the shunt neck joint, has Henry Lai ever raised with you the issue that he's seen some Lenton,

which is tapered threaded couplers, as opposed to BOSA couplers on site? Has he ever told you that?

A. 冇。

Q. So, having had that conversation with Mr Kitching, which we have just gone through, in February 2018, have you then tried to clarify the situation with Henry Lai?

A. 唔記得喎，有冇澄清，咩嘢叫澄--點樣澄清呀？

Q. Have you gone back to Henry Lai and asked him why did the defects in the stitch joints or the shunt neck joint occur?

A. 應該都有約略提過，但係我唔記得exact details係點樣問法，係。

Q. So that was after your conversation with Mr Kitching?

A. 我唔知係幾時，總言之唔--應該唔係immediate after嗰時，唔係。

Q. But your conversation --

COMMISSIONER HANSFORD: We need to leave gaps, otherwise it's not going to be captured on the transcript.

MS LAU: Sorry, yes, I'm aware of that.

Right. So your conversation with Mr Kitching, that's the first occasion on which you learned of the defects at the stitch joints and the shunt neck joint area, is that not?

A. 第一次，我諗係大約係喇，其實唔係好肯定係咪淨係佢一個同我講，但係嗰段時間係啱啱知道囉，係。

Q. So around that period of time, when you had that conversation with Mr Kitching, you've also spoken to

Henry Lai?

A. 係。

Q. What did you say to him?

A. 我有--sorry，唔好意思，我想搞清楚一樣嘢，就係因為嗰段時間其實都好多呢啲咁嘅對話，其實我唔記得咗同邊啲人去講過啲乜嘢嘢，即係邊個話畀我聽，邊個話畀我聽之後，我當然我有同Henry傾過一啲嘢嘅，但係我唔係exactly同佢傾過啲--我唔係好肯定我同佢傾過啲點樣整㗎、點解會咁呀嗰啲，應該未必有囉，係。

Q. So you've now clarified that you have spoken to Henry Lai around that time; is that right?

A. 有同佢講，但係係咪講話點解會有啲咁嘅問題，我唔記得咗有冇同佢講，問佢有冇--點解有啲咁嘅問題，但係見到面，我哋一定有講過，但係exact details，係咪話有問題、點解整到呀呢啲，我唔記得咗有冇問佢囉，係。

Q. I understand that given the elapse of time, you could not recall what exactly you have asked him, but broadly what were those conversations about? Were they about the stitch joints, for example?

A. 真係唔--sorry，真係唔係好知，係。

Q. I ask you this because Henry Lai told us during his evidence that he's never spoken to you during that period of time, since Jonathan Kitching has spoken to him about that issue. But is there anything else that you want to tell us about what Henry Lai has said to you after the event?

A. 冇呀，冇，係。

MS LAU: I understand. Thank you very much, Mr Tam. That's all I wish to ask.

MR BOULDING: Sir, I have a few questions for Mr Tam. Do you want me to start now?

CHAIRMAN: Yes, I think so. Thank you very much, Mr Boulding.

MR BOULDING: No problem.

Cross-examination by MR BOULDING

Q. Good afternoon, Mr Tam. I'd like to ask you one or two questions, if I may, about RISC forms, and in particular RISC form submissions. Do you remember discussing that with Mr Pennicott earlier today?

A. (Nodded head).

Q. Unless you speak up, Mr Tam, we're not going to get --

A. Yes，明白，sorry。

Q. I wonder if we can look at your fourth witness statement. That's at CC3784. If we could look at paragraph 4. Here you say:

"I became aware on or around 24 March 2017 that formal joint inspections by Leighton and MTRCL had been completed, while some of the relevant RISC forms were still outstanding, when I was copied in an email dated 24 March 2017 from Kenneth Kong (senior inspector of works) of MTRCL to Leighton ..."

Do you remember being asked about that particular

paragraph, once again, by Mr Pennicott?

A. 記得。

Q. The transcript records that you told him that this was the first time you were told about the problem with RISC forms. Do you remember giving that answer?

A. 係。

Q. Do you know Mr Kit Chan of MTR?

A. 識。

Q. He's coming along to give evidence next week, I think. I wonder if we can just see what he's going to tell the learned Commissioners.

If we could go, please, to BB5197. Splendid. In paragraph 36, Mr Kit Chan tells us -- do you have that in front of you now, Mr Tam?

A. 睇到，睇到。

Q. If you need it translating, it will be. Mr Kit Chan says:

"Leighton's performance in RISC form submissions was persistently poor, as its RISC form submissions were either late or not being made at all. Indeed, I have refreshed my memory with the aid of various documents (as set out below) and I recall that this aspect of Leighton's poor performance was a subject matter of constant reminders to Leighton and I had specifically raised the issue to Leighton's Kevin Harman."

Did Mr Kevin Harman ever raise this matter with you, Mr Tam, at this time?

A. 喺你講2017年3月之前，係咪？

Q. Yes.

A. No.

Q. Then in paragraph 37 we can see:

"Leighton was aware of MTRCL's dissatisfaction with its RISC form submissions and assigned a group led by Kevin Harman to look into the matter."

Is that something you're aware of?

A. 唔知。

Q. And he says:

"The foregoing is documented in a series of documents prepared by Leighton titled 'MTR outstanding submission responses 5-week rolling view' and in particular the section titled 'Kit Chan special request process control register'."

Now, is that a document you've ever seen before, Mr Tam?

A. 冇留意。

Q. Let's just see how far we can go, please. If we look at BB5712 -- and that document needs to be blown up -- do you see the title, "MTR Kit Chan special request process control register"; do you see that?

A. (Nodded head).

Q. And we can see, can we not, if we look at the top

left-hand corner, that it's got a cut-off date of 13 May 2015; right?

A. 睇到。

Q. And, very approximately, that's something, what, two years before you say you were first aware of a problem in 2017; correct?

A. 係。

Q. Then if we were to look down at the foot of the page, we see a note. Do you see that the objective of this Leighton document, objective of this register, is "to make sure we delivery quick and effective service to our customer Mr Kit Chan"; do you see that?

A. 睇到。

Q. And I assume that you would agree with me that that is indeed an admirable objective on the part of Leightons?

A. 係。

Q. Then if you can go to the next page of the document, please. We've got another little note there:

"If problems are ever encountered in carrying out Kit Chan requested action, immediately notify Mr Kit Chan either in person or by phone ..."

Then we've got the telephone number. Do you see that?

A. 睇到。

Q. So it's clear, is it not, that there was, to say the

least, a degree of urgency associated with the actions set out in this document; correct? Is that the way you understand it?

A. 唔，係。

Q. Then if we can look, please, at BB5710, and we've got the cut-off date of 13 May, and if you'd be kind enough to go across the top of the list, the top of the document, do we see that the first column is headed, "Count"; do you see that? The top left-hand corner, "Count"?

A. 係。

Q. Then if you come down to number 4.

"Active tasks (still in process and recorded in the 5 week rolling summary)", that's helpfully highlighted in yellow; do you see that?

Do you see that, Mr Tam?

A. 睇到。

Q. Then come down to the number 4, if you would be so kind, and we've got first of all a KCR number and then "Received date and time"; "Mode", email and phone; and then you can see, under the column headed "Request description":

"Leightons are making (1) late RISC submissions and (2) omitting RISC records submissions."

Do you see that there?

A. 睇到。

Q. Then if you look at the entry immediately below that, you can see that active number 5 is "Leightons are not submitting RISC records inspection requests."

Do you see that?

A. 睇到。

Q. Perhaps we can go to the right of the document, so if the controller can shift it to the left -- thank you very much -- and we've got our headings helpfully set out across the top, and do you see the heading, "Actions taken"? Do you see "Actions taken"?

A. 係。

Q. Then next to that, do you see, "LCAL action champions"?

A. 睇到。

Q. Then if we look down, against number 4, do we see, Mr Joe Tam, that you are indeed identified as a champion? Is that correct?

A. 係。

Q. You are not just a champion once, are you? Because if you look in the next column, we see Mr Joe Tam identified as a champion again, do we not?

A. 係。

Q. Just to show you that I'm not being selective with the documentation, perhaps we could move on to BB5738. If I can take this perhaps slightly more quickly because we

are all getting the hang of it, you will see, under count number 2 -- do you see count number 2? Count number 2, "Request description":

"LCAL are not submitting RISC records inspection requests."

Do you see that? Do you see that?

A. 睇到。

Q. Just to pick up where we are in terms of the date -- the controller has just obliterated that for me -- if you look at the top left-hand corner, you see that we've moved a bit and the cut-off date for this is 20 August 2015; do you see that?

A. 睇到。

Q. If we go across the top again -- we are getting quite familiar with this now -- do you see the heading, "Actions taken"? Do you see that column?

A. 睇到。

Q. And next to that, "LCAL action champions"?

A. 睇到。

Q. Then if we go down, against item 2, count 2, which we looked at before:

"LCAL are not submitting RISC records inspection requests."

And once again you are identified, are you not, as one of Leighton's champions?

A. 係。

Q. In those circumstances, what I have to suggest to you, Mr Tam, contrary to your witness statement, is that the problems recorded in these forms, LCAL not submitting RISC forms and the like, was indeed drawn to your attention well, well before the email of 24 March 2017, which my learned friend Mr Pennicott took you to. That's correct, isn't it?

A. 其實我冇留意到有呢兩份嘢喺度，係，當然喇，而家梗係知--而家見到有呢兩份嘢係嗰時send咗畀我囉，係，相信，但係我喺正話答Pennicott律師嗰時，係我冇留意到有呢兩份嘢喺度，冇為意到。

Q. So you didn't notice these documents, but presumably, now I've reminded you of their contents, you would accept, would you not, that as one of Leighton's champions, the matters associated with the RISC forms, or perhaps more accurately the lack of them, were drawn to your attention for action back in 2015, were they not?

A. 應該係。

MR BOULDING: Thank you, Mr Tam.

CHAIRMAN: Are you going to ask further questions, I'm not suggesting now but tomorrow morning?

MR BOULDING: I think my learned junior doesn't think I've earned my brief.

CHAIRMAN: Thank you.

MR BOULDING: Perhaps I can just reserve my position.

CHAIRMAN: Yes, certainly.

Mr Khaw, are you likely to be --

MR CHOW: Sir, we do have a few questions for Mr Tam, I'm afraid.

CHAIRMAN: Thank you very much.

Mr Tam, we are adjourning for the evening now, so regrettably we have to ask you to come back tomorrow morning at -- Mr Pennicott, 10.00? It's not that I'm unaware of the times. It's just that you have a better idea of whether we are being pressed for time or whether things are still okay.

MR PENNICOTT: We are okay, sir.

CHAIRMAN: Fine. 10 am tomorrow morning.

And again, because you are still in the process of giving your evidence, you are not permitted to discuss it with anybody else; okay?

Thank you very much. 10 am tomorrow morning. Thank you.

(5.06 pm)

(The hearing adjourned until 10.00 am the following day)

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