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<p>1 Thursday, 10 October 2019 2 (10.04 am) 3 MR PENNICOTT: Good morning, sir, and good morning, 4 Prof Hansford. 5 We now turn to the Commission's project management 6 expert, Mr Steve Rowsell. 7 Good morning, Mr Rowsell. 8 WITNESS: Good morning. 9 MR PENNICOTT: It probably only feels like yesterday, 10 Mr Rowsell, that you actually gave evidence in the first 11 part of the Inquiry, on 10 January this year. On that 12 occasion, you took the oath, and as with Mr Huyghe can 13 I respectfully remind you that you are still giving 14 evidence under that oath that you took on that occasion. 15 WITNESS: Thank you. Yes. 16 MR STEPHEN GORDON ROWSELL (on former oath) 17 Examination by MR PENNICOTT 18 MR PENNICOTT: For the purposes of the Extended Inquiry, 19 Mr Rowsell, you have prepared a report which should be 20 at tab 1 of ER(CO12). 21 A. Yes. Thank you. 22 Q. It's a report, we can see from the front sheet, dated 23 23 August 2019. 24 A. Yes. 25 Q. If we turn to page 70, I hope we will there find your</p>	<p>1 Q. And so far as they contain statements of your opinion, 2 are they opinions honestly held by you? 3 A. They are. 4 Q. In time-honoured fashion, I understand you prepared some 5 slides -- 6 A. I have, yes. 7 Q. -- which I believe you circulated yesterday. So, 8 Mr Rowsell, at this point, I will sit down and let you 9 do your presentation. 10 Oral synopsis by MR ROWSELL 11 WITNESS: Thank you very much. The slides are my attempt to 12 summarise the main aspects of my second report. The 13 slides don't cover every element but I think they are 14 the main topics which have been identified during the 15 course of the Inquiry. 16 So, on the second slide, I just set out the report 17 structure which follows the structure I used for my 18 report for the Original Inquiry, so part 1 covering the 19 adequacy of MTR's project management systems based on 20 their obligations. I will just say that the report -- 21 or my instructions only asked me to look at MTR's 22 project management systems. Whilst I took account of 23 all the issues, I wasn't specifically asked to comment 24 on Leighton's project management systems. 25 Part 2 covers the adequacy of the government's</p>
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<p>1 signature? 2 A. Yes. 3 Q. In addition to the report that you prepared, Mr Rowsell, 4 you have also been involved in the preparation and 5 compilation of a joint statement with Mr Huyghe and 6 Mr Wall. 7 A. Yes. 8 Q. That should be at tab 9 of the same file. 9 A. Yes. Thank you. 10 Q. I don't think this particular -- certainly my copy 11 doesn't bear your signature, but can you confirm that 12 this is the joint statement prepared by the three of 13 you? 14 A. It is, yes. I think we had some difficult travelling 15 logistics when it came to signing, but I confirm that 16 I was in agreement with it, and I apologise that there 17 are one or two typos which I think you've noticed. 18 Q. Yes, indeed. 19 A. But I think it was just the difficulty of the logistics 20 and getting the final copy to you on time. 21 Q. Thank you for that. 22 Mr Rowsell, so far as the joint statement is 23 concerned, insofar as those documents contain statements 24 of facts, do you believe them to be true? 25 A. I do.</p>	<p>1 monitoring and control systems, and part 3 sets out my 2 opinion on how systems for supervision, monitoring, 3 control and management may be strengthened, and sort of 4 my recommendations for what might be done to improve 5 matters. 6 I then move on to part 1 of my report, which, as 7 I say, covers MTR's project management systems. 8 Again, on to the next page, I start the report off 9 by just setting out the main obligations that I believe 10 are relevant to the project management aspects. There 11 are five main sets of obligations. The first flow from 12 the entrustment agreement between the government and 13 MTR. Again, just picking out some key aspects of each 14 of these sets of obligations, 4.6(c) of the entrustment 15 agreement requires MTR to act in accordance with its 16 management systems and procedures, which are largely set 17 out in the documents which I'll refer to as "PIMS", the 18 project integrated management system. 19 The second set of obligations flow from the 20 instrument of exemption, and I note that the granting of 21 exemption took account of the project management plan, 22 and the instrument of exemption also requires assurance 23 and control systems to ensure that construction 24 standards are not inferior to that under the Buildings 25 Ordinance.</p>

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<p>1 The third set of obligations flow from the project 2 management plan, which is called up by the IoE, and the 3 project management plan includes MTR's project 4 integrated management systems, as with the entrustment 5 agreement. Again, just a couple of aspects. There are 6 a lot of obligations under the project management plan 7 but just a couple of particularly important ones. The 8 PMP requires the contractor to submit method statements 9 and a quality plan, and provides a brief mention of the 10 RISC forms. The PMP sets out that MTR is to establish 11 a partnering approach with government to facilitate 12 close communication on issues of common concern. 13 I think, during the course of my report, I have 14 highlighted a couple of aspects where I think there may 15 have been room for improvement in terms of those close 16 communications.</p> <p>17 The fourth set of obligations flow from the PIMS 18 itself, which as I've just said are a key part of the 19 project management plan. The PIMS procedures are 20 required by MTR to be applied in the management of the 21 construction contracts. I would note that during the 22 course of the project, revisions were made at various 23 times to PIMS procedures. I would note in particular 24 that revisions to key documents, or what I would call 25 key documents, the PIMS procedures, were made in 2015 to</p>	<p>1 from the construction contract.</p> <p>2 It is clear to me that a QA procedure and 3 particularly the RISC procedures which are part of that 4 quality assurance system, the RISC procedures require 5 adequate notice to be given to allow the engineer to 6 ensure that they are prepared to carry out the 7 inspection. The RISC form requires the right drawings 8 to be available. It requires the right people to 9 undertake the RISC inspections. And, as part of any 10 good quality assurance scheme, it requires an audit 11 trail or robust record-keeping.</p> <p>12 I note in my report that quality assurance is very 13 dependent on an appropriate corporate culture which can 14 only be established by senior leaders in the 15 organisation. It is for those senior leaders to ensure 16 that all people throughout the organisation understand 17 the importance of quality assurance, that they have the 18 right training, that they apply the procedures with 19 discipline, and that the organisation monitors the 20 quality assurance scheme. Without that, then the 21 quality assurance is inevitably going to break down.</p> <p>22 We have seen much evidence to show that the RISC 23 system was implemented by some but not all of the people 24 involved in the processes, and when it comes to quality 25 assurance I think the position of having one company</p>
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<p>1 align with the new ISO 9001, which is the standard for 2 quality management systems, and those revisions to the 3 ISO were made largely to address leadership aspects in 4 project delivery, and those leadership aspects include 5 communicating the importance of effective quality 6 management and conformance with PIMS requirements. 7 Sorry, those inclusions were added to the PIMS documents 8 in response to the revisions to 9001. And again PIMS 9 also includes, together with the Particular 10 Specification, requirements for non-contractual project 11 partnering in the implementation of the contract with 12 Leighton.</p> <p>13 That brings us on to the final set of obligations 14 which I would call the key aspects, and that is the 15 construction contract with Leighton. There are indeed 16 many obligations placed on MTRCL in their role as 17 engineer and employer under the terms of the target cost 18 contract.</p> <p>19 If we can move on to the next slide. So key issues 20 which have arisen in relation to the obligations -- I'll 21 start off with the lack of RISC forms for certain 22 elements of the work. It is clear to me that MTR and 23 Leighton are both obliged to follow the RISC procedure. 24 MTR are required under the provisions of the entrustment 25 agreement and the IoE, and Leighton's obligations flow</p>	<p>1 with two systems, it doesn't work in quality assurance 2 terms. Having said that, I think it is quite clear that 3 in the current modern environment, the RISC process does 4 now appear to be time-consuming and inefficient. It's 5 a paper-based system. Having said that, the procedure 6 has developed over a number of years, quite a number of 7 years, and it's based on a lot of experience, a lot of 8 feedback. So the procedure itself is a very robust 9 procedure, if implemented properly, but I think it's 10 clear to everyone that it could be made more efficient 11 and more user-friendly.</p> <p>12 We have heard that other processes were used, and it 13 would have been appropriate to use other processes if 14 they had been formally proposed and properly considered 15 and approved by the engineer under the contract.</p> <p>16 The overall position I conclude is that both parties 17 failed to fully implement the required procedure. Start 18 with Leighton failed to submit forms and MTRCL carried 19 on without the RISC forms and without taking effective 20 action, and by that I know that action was taken but it 21 wasn't action which was effective in stopping the 22 problem from happening.</p> <p>23 Moving on to how the problem may have been 24 rectified, including the use of non-conformance reports. 25 So I set out on this slide what MTR and Leighton could</p>

<p style="text-align: right;">Page 9</p> <p>1 and perhaps should have done, recognising that this was 2 a contract that was intended to work as a partnership, 3 albeit non-contractual partnering. 4 I think, in the first instance, once the problem 5 came to the notice of the parties, I think it should 6 have been the case that individuals should have been 7 identified who were not complying and the reasons 8 understood for that non-compliance. Were there real 9 resource issues or was it just a lack of discipline 10 amongst those particular individuals? 11 Following on from that, I think the engineer should 12 have held contractual meetings with the contractor, and 13 I underline "engineer" because the authority under the 14 contract lies with the engineer, and again it's 15 something I set out in my report that with the different 16 roles MTR held in terms of engineer and employer and the 17 project manager, the authority under the contract lay 18 with the engineer, and it was important, in my view, 19 that the appropriate contractual lines of responsibility 20 were followed. 21 As a result of such a meeting, there would have been 22 really two options, either to require the contractor to 23 rectify the position or to invite the contractor to 24 submit alternative proposals for approval. And there 25 may have been a time limit given, as Mr Wall suggested</p>	<p style="text-align: right;">Page 11</p> <p>1 that in my expert report. 2 Having issued an NCR, I think the contractor should 3 have been reminded that the PIMS procedure requires or 4 encourages the contractor to self-declare 5 non-conformances, and indeed the contractor's quality 6 plan I believe also requires the contractor to identify 7 non-conformances, and indeed part of declaring 8 a non-conformance is also an obligation to rectify it. 9 So those are the fairly simple steps that I think 10 could have been taken. Perhaps more severe steps which 11 might have been taken by the MTR: if the contractor was 12 not responding, the engineer could have threatened 13 suspension of relevant parts of the works. I think the 14 contract makes provision for that under clauses 16.3 15 and 72.1. A more extreme response would have been to 16 consider re-execution of work not in accordance with the 17 contract, if that was considered to be the case, under 18 clause 61.1, or indeed whether there were any provisions 19 under the contract where disallowed costs would apply to 20 these defects. I'm not saying that they would have 21 done, just they should have been considered and that 22 could have been an action which was taken. 23 If I might move on to ineffective site inspections. 24 What I think is fairly clear from the evidence we've 25 seen is that the inspections required under the RISC</p>
<p style="text-align: right;">Page 10</p> <p>1 on Tuesday, I believe, that there should have been 2 a clear deadline given in which a decision was taken 3 whether RISC would be used or the contractor was invited 4 to use alternative proposals. That would have 5 formalised the position under the contract. 6 At that stage, certainly I think the engineer or 7 indeed the contractor could have issued 8 a non-conformance report. The note I make in brackets 9 there, note the updated PIMS guidance, I think it's 10 quite important that in the relevant PIMS document, 11 there were six versions of the document that were 12 produced during the course of the contract, and the last 13 version, version 6, I believe was published on -- 14 I think it was in March 2017. That version changed the 15 circumstances under which MTR should issue NCRs prior to 16 that date. There was a specific note in the document 17 which said that NCRs should not be issued in 18 circumstances where there was a late submission of 19 certain documents. It didn't specifically refer to RISC 20 but it used the term "et cetera", so that could have 21 been covered. And also NCRs should not be issued for 22 poor housekeeping, which again may have covered the 23 situation. It was only after March 2017 that, in my 24 opinion, this type of non-conformance perhaps came under 25 the requirements of that PIMS procedure. I do mention</p>	<p style="text-align: right;">Page 12</p> <p>1 procedures did not identify defects in steel fixings at 2 the stitch joints. It's difficult to be certain why 3 that was the case, but I have set out here some 4 contributory factors which seem to be the more likely 5 components of the problems. The lack of a method 6 statement -- that may have helped ensure that the people 7 involved in inspections more clearly understood how the 8 works should have been undertaken. It's possible that 9 the inspection and test plans did not fully address 10 potential access difficulties in undertaking visual 11 inspections. I think we heard in the Original Inquiry 12 that for the very deep slabs where there were 13 reinforcement in the lower parts of the slabs and the 14 top part, that inspections were undertaken in two 15 stages, which wasn't the case here, even though there 16 may have been visual hindrances to those inspections. 17 There was the possibility that the latest drawings 18 weren't available -- I say "at short notice"; so again, 19 if generally the contract required three days' notice of 20 inspections -- and we know that wasn't given in full by 21 agreement with MTR -- at short notice, there may have 22 been some uncertainty about the latest drawings to be 23 used. 24 It's possible that some inspectors did not have 25 adequate technical knowledge of the couplers. Again,</p>

<p style="text-align: right;">Page 13</p> <p>1 there's been evidence to that effect. There has been 2 consideration about the level of surveillance and 3 supervision prior to inspections. I think it's worth 4 noting that on the RISC forms, the RISC forms do require 5 the person requesting the inspection to sign to confirm 6 that the works to be inspected do comply with the 7 contract. So, again, the surveillance and supervision 8 should have helped to establish that the works were in 9 a fit state for inspection.</p> <p>10 And overall, I think there was a desire by all 11 parties to avoid delays to the work programme.</p> <p>12 Just one additional point which arose on Tuesday and 13 which I could have added here. Mr Hansford, you raised 14 the issue with Mr Wall about BIM possibly being of 15 benefit, and I think that is something that clearly, in 16 terms of drawing availability, using BIM to see how the 17 works fit together to understand reinforcement and all 18 that sort of thing, and in addition with more advanced 19 versions of BIM, what is known as 4D BIM, you actually 20 build the programming aspects into the BIM model, so 21 that not only can you see what the structures and the 22 like look like but you can also see how it's going to be 23 built over time and you can phase into the 4D BIM things 24 like when inspections are going to take place and the 25 like.</p>	<p style="text-align: right;">Page 15</p> <p>1 PIMS does include interface coordination as a key 2 process, and appendix Z2, which we've seen quite a bit 3 of, that sets out quite clearly the interface 4 responsibilities for all parties, and includes a role 5 for MTR in that proactive liaison.</p> <p>6 So, in my view, the overall procedures as set out in 7 the contract in relation to the management of interfaces 8 are good, but unfortunately they were not fully 9 implemented in practice. For example, Leighton didn't 10 produce a joint statement, and my understanding is that 11 joint inspections, required by appendix Z2, were not 12 held as required. Leightons accepted that there was 13 a communications breakdown in ensuring that certain 14 technical information was not provided to the site team. 15 I'm summarising quite a complex area now; I hope I'm not 16 summarising too much. And also I think that MTR could 17 have been a little more proactive in ensuring that some 18 of those actions were taken.</p> <p>19 Then the last of my key issues: testing of steel 20 reinforcement. We have heard that Leighton identified 21 that 7 per cent of required tests were not undertaken. 22 MTR's systems did not identify that the tests had been 23 missed. The testing standards, based on Construction 24 Standard 2 from 1995, were used, although we have noted 25 that there was a later revision in 2012. I point out in</p>
<p style="text-align: right;">Page 14</p> <p>1 I've not mentioned that in my expert report. 2 I mentioned BIM in my first report and recommended that 3 the government consider collaborative BIM, the 4 introduction of collaborative BIM. I felt that to go on 5 to something like 4D BIM was perhaps asking the 6 government to run before it could walk, but at some 7 stage I think that 4D BIM, following the introduction of 8 a basic collaborative BIM, is something that would help 9 in this respect.</p> <p>10 On the next slide, on interface management and 11 planning, I set out my view in my report that interfaces 12 are very much a key risk that do require focused 13 management. I think throughout the industry generally 14 on projects of this nature, the two key risks are 15 interfaces and systems integration, particularly on 16 railway projects, and if you're not addressing those key 17 risks then you're going to be exposed to problems.</p> <p>18 PIMS does require MTR's construction manager to take 19 a proactive approach to liaison and to take timely 20 action to intervene where appropriate. That's in the 21 construction management procedure. So, again, it's not 22 taking responsibility away from the contractor but it is 23 encouraging the MTR construction manager to be proactive 24 in helping to ensure that the interface risks are 25 managed.</p>	<p style="text-align: right;">Page 16</p> <p>1 my report the clear aim that is set out in CS2 to reduce 2 the level of purchaser testing over time, and it's now 3 24 years on from when that standard was produced.</p> <p>4 I point out some aspects of CS2 and PNAP-45, I think 5 that's the practice note for authorised persons -- 6 those, in my view, were not fully aligned in terms of 7 the wording within those documents on the level of 8 testing. And also testing under CS2:1995 is based on 9 batches but at that stage there was no definition of 10 a batch, and in the revised standard there is 11 a definition of batching, and my reading of that new 12 standard is that there could well have been a reduction 13 in the number of overall tests required.</p> <p>14 When we talk about 100 per cent testing, of course 15 it's important to note that doesn't mean all steel has 16 been tested. That means that three samples of steel 17 have been selected per batch, which is actually a very 18 small percentage of the overall numbers of bars within 19 a batch. My calculation is that less than 1 per cent of 20 the bars within a batch would be sampled.</p> <p>21 I have come to the conclusion, which my fellow 22 project management experts agreed with, that based on 23 practices elsewhere, where there is a much lower level 24 of purchaser testing, a testing level of 93 per cent, 25 with successful test results and with the availability</p>

Page 17	1 of mill certificates for the steel that's being 2 supplied, should give a good degree of confidence. 3 Then very briefly on parts 2 and 3 of my report. 4 Part 2 covers the adequacy of the government's 5 monitoring and control mechanisms. There are two main 6 aspects that I've identified, and I've not, obviously, 7 repeated what is set out in my original report which the 8 government has already responded to. 9 I think on the role of the monitoring and 10 verification consultant, the issues looked at by the 11 Extended Inquiry sort of add emphasis to the importance 12 of reviewing the scope of the M&VC role, to ensure that 13 that is clarified on future projects. My view is that 14 it should include construction quality and checks on 15 construction records; give more consideration to the 16 resource availability and to make sure that there is 17 sufficient flexibility of services within the companies 18 who are appointed to undertake that role; to look at the 19 commercial arrangements to ensure that they are properly 20 incentivising delivery and to encourage the delivery of 21 the expectations that government has; to ensure that 22 interface risks are treated as potential key risks as 23 part of the very sensible risk-based approach to 24 reviewing priorities; and also for the M&V consultant to 25 be involved in reviewing defective work. So those are	Page 19	1 CHAIRMAN: Thank you very much. 2 MR PENNICOTT: So Leighton, Pypun, government, MTR. 3 COMMISSIONER HANSFORD: I have a couple of questions. 4 MR PENNICOTT: Sure. 5 Questioning by THE TRIBUNAL 6 COMMISSIONER HANSFORD: Perhaps now would be a useful time 7 to raise them. 8 Mr Rowsell, throughout your report, you emphasise 9 the two roles that the MTR has, the role of the engineer 10 and the role of the project manager. 11 A. Yes. 12 COMMISSIONER HANSFORD: Do you think it would be helpful to 13 have different people carrying out those two separate 14 roles, so it could be clearly indicated that this person 15 is MTR engineer and this person is MTR project manager, 16 or do you think is unnecessary? What's your view on 17 that? 18 A. I think there is a need for absolute clarity in terms of 19 the roles that individuals are performing. I think 20 there may be some key roles where it would be desirable 21 for those to be separated out. I think, in my opinion, 22 certainly the engineer's representative -- I'm not sure 23 about the engineer itself -- but the engineer's 24 representative I think would certainly benefit from 25 being separate.
Page 18	1 the recommendations I have come up in respect of that. 2 Then scrutiny of the PMP, very simply -- I did touch 3 on this in my original report but just to make sure, in 4 order to give the government confidence, that the PMP 5 will result in the project being delivered in the way 6 expected: that all key aspects of the project management 7 are covered in PMPs, not in a great amount of detail but 8 in sufficient detail to give confidence; and I've set 9 out some suggestions -- and indeed those are in the 10 joint statement as well -- for additional contents and 11 greater detail. 12 Then in the report part 3, I don't think I need to 13 read those out, but those are the headings under which 14 I have listed out recommendations for the various 15 parties to consider in terms of improving future project 16 management procedures. 17 MR PENNICOTT: Thank you very much indeed, Mr Rowsell. 18 Sir, I don't have any questions myself, but 19 I understand that others do. Can I suggest that the 20 order of cross-examination is as follows: Leighton 21 first; Pypun -- who I understand have some questions -- 22 go second; and then the government, and MTR last. 23 CHAIRMAN: Sorry, I'm not sure -- Mr Clayton, do you have 24 questions? 25 MR CLAYTON: Yes, I do, sir.	Page 20	1 I think what is important is that the individuals, 2 you know, and the contractor clearly understand who it 3 is has the authority under the contract. What concerns 4 me most is where individuals who may not have 5 a contractual role are liaising with the contractor, and 6 potentially -- I don't have evidence for this but this 7 is the risk that one would need to manage; it's very 8 important that the contractor understands what authority 9 those individuals have, and that those individuals 10 understand whether they are acting under the contract or 11 whether they are acting for MTR in a different role. 12 I think that would certainly be something that 13 should be considered and, at the very least, there 14 should be clearly defined roles for individuals in terms 15 of their contractual role and perhaps their other day 16 job in working for MTR. 17 COMMISSIONER HANSFORD: So do you see scope for 18 clarification? 19 A. Definitely scope for clarification. I think there could 20 well be some roles which would benefit from being 21 identified with just one individual in terms of the 22 contractual role that they've got to fulfil; that would 23 be someone separate. But it would be wrong for me to 24 try to analyse that in great detail in a very brief 25 response.

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1 COMMISSIONER HANSFORD: That's very helpful. Thank you.
 2 My second question goes to NCRs.
 3 A. Yes.
 4 COMMISSIONER HANSFORD: It seems to me we've got two types
 5 of NCRs. We've got NCRs for the works, which is
 6 basically non-conforming products, non-conforming work,
 7 poor workmanship, that falls in that category.
 8 A. Yes.
 9 COMMISSIONER HANSFORD: And we have NCRs for processes and
 10 you helpfully pointed out how PIMS was changed or
 11 revised in March 2017 to make that point a bit clearer.
 12 A. Mmm.
 13 COMMISSIONER HANSFORD: But there are NCRs for processes.
 14 So, when a process doesn't conform with the contract,
 15 an NCR can be used to raise the fact that that is
 16 non-conforming with the contract. Two separate types of
 17 NCRs.
 18 My question is: do you think that's unhelpful? Do
 19 you think there would be -- for the future, I'm looking
 20 for the future, not looking at what actually happened
 21 but looking for the future, and again looking at making
 22 things clearer -- do you think even perhaps calling them
 23 different things so that one is clearly related to
 24 a non-conformance of works and one is related to
 25 a non-conformance of process, giving them different

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1 names, do you think that would be of any benefit?
 2 A. Yes, I do. I think that within PIMS that
 3 differentiation between product or works NCRs and
 4 process NCRs is not very clear. I'm not sure that the
 5 revision in 2017 has particularly cleared that up.
 6 I mean, before, it was very clear that the NCR, the PIMS
 7 NCR process shouldn't be applied to late submission of
 8 documents, for example. Now it's just removed that but
 9 it doesn't say that you should. It's just removed the
 10 statement that you shouldn't apply it.
 11 So I think there is a need to clarify the position
 12 on NCRs, and I think the joint experts also set out that
 13 it would be helpful to categorise them into
 14 low/medium/high risk.
 15 COMMISSIONER HANSFORD: That's a different point though
 16 Mr Rowsell, isn't it? Categorising into
 17 low/medium/high, I accept the value in that, but I'm
 18 talking about whether they should be two different
 19 things.
 20 A. Yes. The reason I mention it is because if there's just
 21 one system of NCRs, everybody might always put
 22 a procedural one in a low risk, whereas in my view
 23 quality assurance is absolutely key and the breakdown of
 24 the quality assurance process is very often a high risk.
 25 But there's not a danger of part of the structure

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1 collapsing, but the breakdown in the quality procedure
 2 might ultimately lead to that.
 3 So I think there is certainly some considerable
 4 merit in what you say in that the people involved in
 5 implementing those systems, it would be very helpful to
 6 them to know that they can use NCRs for procedures and
 7 for works, and for different names to be given to them
 8 might help encourage the use of them, because that's the
 9 other problem with them at the moment: there's a bit of
 10 a reluctance to use them, and that might well be why it
 11 took so long to issue the NCRs for the procedural
 12 defects in relation to the RISC forms.
 13 COMMISSIONER HANSFORD: Thank you. That's very helpful.
 14 Cross-examination by MR CHANG
 15 MR CHANG: Good morning, Mr Rowsell.
 16 A. Good morning.
 17 Q. I represent Leighton. I have a few questions for you.
 18 A. Thank you.
 19 Q. There are three main topics I wish to discuss with you:
 20 first, RISC form; secondly, site supervision; and
 21 finally on interface risk management.
 22 If I can start with RISC form. Can I trouble you to
 23 turn up your report for the Extended Inquiry,
 24 paragraph 37. If you look over the page, you set out
 25 a number of reasons which, in your view, contributed to

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1 the departure from the formal procedure for RISC form,
 2 and you then set out (a) to (k). I wish to go through
 3 some of these reasons with you.
 4 A. Okay.
 5 Q. If I can first trouble you to go to item (b),
 6 "insufficient resources to apply the formal procedure
 7 within the required time tables".
 8 I just want to clarify with you: what's the factual
 9 basis for you to say any failure to adhere to the RISC
 10 form procedure came out of or was caused by insufficient
 11 resources?
 12 A. I just make it clear that the list sets out reasons
 13 which may have contributed to departure from the formal
 14 procedures, and in the following paragraph I say:
 15 "Any or all of the above possible reasons may have
 16 contributed to the problems ..."
 17 Therefore, to me, these represent risks which need
 18 to be managed in future projects, because it's not
 19 absolutely clear to me what caused the problem.
 20 Therefore, I have set out possible causes and then I've
 21 tried to set out how those risks could be managed in the
 22 future.
 23 Sorry, in relation to insufficient resources, I'm
 24 just aware that there were witnesses who identified that
 25 they were very busy and felt that they were under some

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<p>1 pressure, and therefore the obvious risk is that there 2 is insufficient resource. I'm not saying that 3 definitely happened.</p> <p>4 Q. I see. Were you aware that Mr Kit Chan gave evidence 5 before the Commission and he gave a number of reasons 6 why the RISC form procedures were not complied with? 7 A. Yes.</p> <p>8 Q. If I can refresh your memory. If you can go to Day 14 9 of the transcript for the Extended Inquiry. This is the 10 examination by Mr Pennicott. Page 1, line 13 onwards, 11 where Mr Pennicott was recapping his discussion with 12 Mr Kit Chan on the various reasons why -- for the 13 non-submission of RISC forms; can you see that? 14 A. Yes.</p> <p>15 Q. In fact, Mr Rowsell, you have cited this part of the 16 transcript in your report, paragraph 37, as well? 17 A. Yes.</p> <p>18 Q. Just to quickly go through the five reasons given or 19 summarised by Mr Pennicott: line 23 on page 1, 20 individual performance; and then page 2, line 1, the 21 importance or otherwise of the pours? 22 A. Yes.</p> <p>23 Q. The third reason, page 2, line 7, non-user-friendly 24 nature of the RISC forms; fourth reason, line 11, 25 potential delay, that may be occasioned to the works if</p>	<p>1 investigation into the problem.</p> <p>2 Q. So, in short, when you say "insufficient resources", you 3 are simply saying there are not enough people on the 4 spot to compile the paperwork? 5 A. Well, at particular times. We've heard quite a lot 6 about resource planning, and of course part of resource 7 planning is that you've got to try to manage out those 8 peaks and troughs, and it may be that certain 9 individuals at certain teams were under considerable 10 pressure due to a peak of work. So it may be that it 11 was insufficient resources or that the resources weren't 12 being managed in a way that spread the workload across 13 the resources that were available.</p> <p>14 Q. Thank you. 15 If I can move on to item (e) of the same paragraph. 16 Another reason you gave or another possible risk that 17 you highlighted -- 18 A. Thank you.</p> <p>19 Q. -- is item (e), "tolerance of informal and unapproved 20 procedures by MTRCL staff who did not want to be the 21 cause of delays to the programme and went along with the 22 alternative arrangements". 23 I just want to clarify with you, when you say 24 "unapproved", you are referring to the fact that this 25 alternative procedure was not documented in a formal</p>
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<p>1 the RISC form procedure is strictly adhered to; and 2 finally, the fifth reason is at line 15, the RISC form 3 is a contractual requirement and not a statutory 4 requirement.</p> <p>5 So these are the five reasons given by Mr Chan, 6 being the project manager on the spot.</p> <p>7 Do you accept resource is not one of the reasons 8 given by Mr Chan as contributing to the non-adherence to 9 the RISC form procedure? 10 A. I recognise that Mr Chan was of that view, yes.</p> <p>11 Q. Were you aware that MTRC also did not complain to 12 Leighton about insufficient resources, insofar as the 13 RISC form procedures are concerned? 14 A. Yes. The point I make is that at the time, there didn't 15 seem to be any great effort made to understand why those 16 problems were not [sic] occurring. I mean, what we've 17 heard is evidence from individuals directly involved and 18 they felt they were busy. Now, if there had been proper 19 investigations at the time, then that could have been 20 properly tested and it could have been found out whether 21 it was a resource problem or whether those individuals 22 simply wanted to adopt a different system which they 23 found to be more convenient.</p> <p>24 So, yes, I understand Mr Chan's view. I'm not sure 25 that view was expressed following any great degree of</p>	<p>1 either variation document or a formal written document; 2 correct? 3 A. Yes. The contract required the RISC procedure or the 4 supervision and inspection procedure to be undertaken 5 using the RISC process, so that was the contractual 6 requirement. It was also the obligation on MTR, because 7 it was part of their management system, and in order to 8 move away from that both MTR would have had to have 9 informed the government that they were changing their 10 management system and that the contractor would also 11 have had to put in a request to change the procedure and 12 the engineer would have had to approve it, which is what 13 I mean by "unapproved".</p> <p>14 Q. But how do you reconcile this with the PIMS 15 requirement -- or there is a statement in PIMS, I think 16 paragraph 5(e), which provides MTRC and Leighton should 17 adopt a flexible, proactive and cooperative approach to 18 bring forward the works? 19 A. I don't think the two conflict. I think that when the 20 parties became aware that the RISC procedure was not 21 being followed, at that stage I think MTR should have 22 taken this flexible and cooperative approach and said to 23 the contractor, "Look, let's find out what's happening, 24 have a meeting, let's discuss the problem", and, if 25 there's a better way of doing it, I think the engineer</p>

Page 29	1 would have been flexible in responding to the 2 contractor's wish. 3 But I don't think that the contractor should have 4 pressed on sort of unilaterally with an alternative 5 procedure without having discussed it and got it 6 approved, because, by getting it approved, then you 7 consider all aspects of the procedure. 8 You know, I can understand why WhatsApp was used, 9 but using WhatsApp, could you be certain -- you know, 10 the RISC form requires that the drawings are identified, 11 so you know that you are inspecting against the right 12 drawings; you know that the previous inspections have 13 been undertaken; you know who is undertaking the 14 inspection, have they got the right inspection, have 15 they got the right qualifications. So a new system 16 would have had to ensure that all the requirements of 17 RISC were being incorporated within the alternative 18 procedure. 19 Q. So when you say "unapproved", you are referring to the 20 fact that it's unapproved by MTR formally? 21 A. If I can use the term "engineer", because it was 22 a contractual requirement between MTR and the 23 contractor, and to move away from the specification, 24 because the RISC form was specified in the General 25 Specification -- to move away from that would have	Page 31	1 contract partnering but it was non-contractual. 2 But the point I'm making is that there's a common 3 misunderstanding in the industry that partnering is 4 about being chummy and friendly and just agreeing to 5 what the other party wants. That isn't the case. 6 Partnering has to be very disciplined, it's about being 7 collaborative and cooperative, but still ensuring that 8 obligations are fulfilled. So the point I'm making 9 there is that the witnesses who said that this was 10 supporting a partnering approach, and that was MTR 11 people I believe, I think it was wrong to say that that 12 was what partnering -- that was what was expected of 13 them in terms of adopting a partnering approach. They 14 shouldn't be breaching the contractual obligations or 15 procedures and saying, "It's okay because it's 16 partnering", if that makes sense. 17 Q. So the mistaken belief here, you are referring to MTR 18 staff? 19 A. Yes, so I'm -- yes. I'm not aware that Leighton used 20 that reason. 21 Q. Right. The next item, item (g), "insufficient oversight 22 of inexperienced inspectors and engineers by their line 23 managers and a lack of direction on the priorities that 24 the site teams should apply to work pressures". 25 Again, when you refer to "inexperienced" --
Page 30	1 required the engineer to agree that an alternative 2 procedure could be used instead. 3 Q. Right. Now I move on to the next item, item (f), 4 "a mistaken belief that the alternative approach was 5 acceptable as it supported the contract partnering 6 principles". 7 Now, I wish to clarify with you, when you use the 8 word "mistaken" -- now, the facts which I do not believe 9 is disputed is that MTR knew that RISC forms were either 10 outstanding or late, but they nevertheless carried on 11 with the inspection without the RISC forms. So that's 12 a fact. 13 A. (Nodded head). 14 Q. So, when you say "mistaken", in light of these facts, 15 are you still saying the contractor, namely Leighton, 16 was mistaken that this alternative approach was 17 acceptable, when MTRC actually carried on with the 18 inspections? 19 A. Actually, I think my reference there is more to the MTR 20 inspectors. I believe the evidence -- I can't remember 21 the people who gave the evidence -- but there were some 22 MTR inspectors who set out, certainly in their oral 23 evidence, that they felt being cooperative was actually 24 part of the required approach to partnering. I say 25 "contract" -- "contract partnering", of course it was	Page 32	1 "insufficient oversight of inexperienced inspectors and 2 engineers by their line managers", you are referring to 3 MTR? 4 A. I am. Perhaps, rather than "inexperienced", I might 5 have said "less experienced". 6 Q. Just to clarify this, what's the factual basis for you 7 to link the RISC form issue with insufficient oversight? 8 A. I think it's linked mainly to the priorities and the 9 direction that's given by line managers. So line 10 managers I think became aware that certain individuals 11 were not applying the RISC forms, and in my view quality 12 assurance is absolute; it's up there alongside health 13 and safety as a priority and cannot be compromised on. 14 So in my view, the less experienced inspectors and 15 engineers I think should have been given much greater 16 direction in terms of the priorities that they should be 17 applying. So if they -- I think in evidence they said, 18 "We had to, we were too busy doing other things" -- 19 well, in terms of QA procedures, that's no excuse. You 20 know, that has to be a priority. 21 So, in my view, the line managers should have been 22 insisting that those individuals gave full attention and 23 ensured that the RISC procedures were properly followed, 24 and if it then came to light that that meant there was 25 a real resource issue, then those line managers should

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1 have addressed it.

2 Q. Thank you.

3 The next item, item (h), "younger generation

4 engineers being more comfortable with technology systems

5 rather than administering a paper-based system".

6 Again, on the facts presented before this

7 Commission, I'm just wondering whether there's any

8 factual basis to say, on the facts in this project, the

9 RISC form issue arose because younger generation of

10 staff either from Leighton or MTR didn't want to deal

11 with the paperwork.

12 A. I think it comes back to the point that the RISC system

13 is time-consuming and inefficient. Perhaps it was wrong

14 of me to particularly highlight "younger generation",

15 but that is my view, that younger generations are much

16 more familiar with systems like WhatsApp and they will

17 know instantly that they can communicate much more

18 efficiently and quickly using it, and there was

19 a temptation to use it and that's what led to WhatsApp

20 being introduced in the first place.

21 So what I'm trying to explain is how some of these

22 people may have started off the problem by reverting to

23 WhatsApp rather than the paper-based RISC system, and

24 I think it's a reasonable point that it is because they

25 are used, in their day-to-day experiences, in

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1 communicating through WhatsApp.

2 I think the other point I would use, and it's

3 something else I have mentioned in my report, is that

4 there are other inspections going on as well as the RISC

5 procedures. You know, the contract requires all work to

6 be offered up for inspection. The engineer may not

7 choose to inspect everything, but the contractor has to

8 offer up all work for inspection before it is covered

9 up, and it might well be appropriate, where there isn't

10 a formal RISC procedure to be followed, because RISC

11 procedure is used in certain situations -- in the other

12 inspections, it might well have been totally appropriate

13 and efficient for those individuals to use WhatsApp to

14 communicate and to say, "Look, there's a bit of work

15 here ready, it's not a piece of work that requires

16 a RISC inspection but it does require us to notify you

17 under the contract that we are going to cover it up. Do

18 you want to come and have a look at it?"

19 So they might well have been using social media

20 applications in order to communicate on the other parts

21 of the inspection requirements.

22 Q. But just to be absolutely clear, for this particular

23 item, you are not suggesting this is in fact what

24 happened in this project, but you are more focusing on

25 managing future risks?

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1 A. Well, a WhatsApp system was used, so I'm sort of

2 suggesting there that -- well, again, it's linked to the

3 point that the system is not a very user-friendly one,

4 so I think what I'm trying to explain is why the

5 problems arose in the first place, so part of it was

6 that the paper-based system was time-consuming and

7 inefficient, and that people found that there were

8 technology systems which they could use on their own

9 which would save them time and they felt was all right.

10 But you are right, I'm looking more to the future,

11 to set out how it might be done better in the future.

12 Q. Thank you. That's all I wish to ask you on RISC forms.

13 Now I move on to the second topic, which is site

14 supervision.

15 A. Okay.

16 Q. In particular full-time and continuous supervision which

17 is a recurring theme for both parts 1 and 2 of the

18 Inquiry.

19 In this regard, I need to refer you to your first

20 report for the Original Inquiry.

21 A. Okay.

22 Q. If this can be called up to the screen. We might not

23 need the actual report, if Mr Rowsell can look at the

24 screen, because there's only one paragraph which I wish

25 you to look at. That's paragraph 78.

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1 A. Yes.

2 Q. In particular, the third line from the bottom of the

3 page:

4 "That means, in my opinion, that a contractor's

5 supervisor needs to be present at all times where

6 mechanical coupler works are underway."

7 So that's your interpretation of full-time and

8 continuous supervision?

9 A. Yes.

10 Q. Or the degree of presence --

11 A. Not necessarily the same supervisor but a supervisor.

12 Q. A supervisor.

13 The reference we have as the source of your view in

14 this regard is QSP paragraph (5)1(i), which you have

15 cited in line 5 of this paragraph, in bold; you can see

16 that?

17 A. I can see the reference, yes.

18 Q. Can I trouble you to turn up -- or may B6, page 4103 be

19 shown on the screen.

20 So (5)1(i), we can see in the middle of the page on

21 the screen:

22 "Quality control supervisors will responsible to

23 carry out full-time and continuous supervision of the

24 splicing assemblies on site."

25 So that's your reference.

<p style="text-align: right;">Page 37</p> <p>1 If I can trouble you to go up to the cover page, 2 4099 of the same document. This is the QSP for couplers 3 with a ductility -- for ductility couplers; you can see 4 that? 5 A. I can, yes. 6 Q. Again, it's a matter of legal submission or contractual 7 interpretation, but you are aware there is this argument 8 over when and how the QSP would be applicable, and our 9 position is that the QSP is only applicable to areas 10 where there is a ductility requirement for the couplers. 11 A. I'm aware of that, yes. 12 Q. So do you accept, if that's the case, for areas where 13 there is no ductility requirement, this provision under 14 the QSP referring to "full-time and continuous 15 supervision" would not be applicable? 16 A. No, I don't fully agree with that. I mean, the 17 requirement flows from the BD Code of Practice, and also 18 from the letters of acceptance that BD sent in response 19 to the consultation, the design consultation process, in 20 2013, and those letters of acceptance covered situations 21 where there were couplers with ductility requirement and 22 situations where there were couplers without ductility 23 requirement. For the situations where there are ductile 24 couplers, QSPs are required and those QSPs required 25 full-time and continuous supervision; but where there</p>	<p style="text-align: right;">Page 39</p> <p>1 presence, although, you know, I would say that any 2 reasonable interpretation of that would probably allow 3 those supervisors to go off and have a toilet break 4 every now and then without contravening that 5 requirement, but if they go off on two weeks' holiday 6 then you would expect somebody to be there to cover 7 them. 8 Q. But when you say "continuous presence", presence where? 9 A. Presence in the work area, so they are -- 10 Q. In the vicinity? 11 A. Yes, so they can see what those workers are doing, 12 otherwise I don't see how it's supervision. You know, 13 if they're sat in the office not fulfilling supervision 14 roles, then to me that isn't supervising. 15 The requirement for "full-time continuous" applies 16 to areas of high risk where there is deemed to be a need 17 for a quality supervision plan, and that only applies to 18 fairly small parts of the work, you know, and the 19 government has recognised that these are high-risk 20 areas. They want to be sure that in these high-risk 21 areas the works are properly built, they are properly 22 supervised, and that you need a full-time and continuous 23 presence. 24 Now, I'm sure you can come up with very clever 25 interpretations of that, but in my view it's a simple,</p>
<p style="text-align: right;">Page 38</p> <p>1 are couplers without the ductility requirement, there is 2 still a need for full-time supervision. 3 Q. But not continuous? 4 A. Well, you then get into the question of what's the 5 difference between "full-time" and "continuous". 6 Q. In your view, what's the difference between these two 7 terminologies? 8 A. In my view, they are pretty much the same thing. 9 "Full-time" could be taken to be the full-time presence 10 on site. "Continuous" I think is indicative that those 11 supervisors or inspectors or supervisors should be 12 dedicated to a supervision role. But I'm aware that's 13 my view as a project management expert and not as 14 a lawyer. 15 Q. But you do accept it doesn't mean man-marking? 16 A. It certainly doesn't expect man-marking, and I think 17 we've highlighted that the specification, the General 18 Specification, sets out a requirement of a minimum of 19 one supervisor for every ten workers. So it's one on 20 ten, and in a working area, you know, one supervisor can 21 probably quite easily see generally what those people 22 are doing, whether they are working in a safe manner, 23 whether they are generally following the quality 24 procedures and the technical procedures. 25 So it's not man-marking, but it is a continuous</p>	<p style="text-align: right;">Page 40</p> <p>1 pragmatic view that people need -- the supervisor needs 2 to be there full-time and continuously supervising. 3 Q. So are you going so far as to say -- let's say a group 4 of rebar fixing workers was screwing in a rebar into 5 a coupler, so let's say it's a group of two, one is 6 holding the rebar, one is trying to fit the rebar into 7 the coupler -- so the supervisor needs to be next to 8 this group of two, to see them or to oversee them 9 screwing in? 10 A. What we've said is it's one on ten, so there are ten 11 workers doing various things and the supervisor should 12 have enough experience to see whether work is generally 13 being done right, and if you get to a critical stage 14 I would expect the supervisor to pay particularly close 15 attention. Whether he is stood by them or whether he is 16 stood a few yards or a few metres away, I don't know, 17 but he is stood in the area to be able to observe what 18 is being undertaken. 19 Q. But even on your suggestion of one-to-ten, the 20 supervisor will not be able to see each and every rebar 21 being screwed in, because there might be different 22 groups of workers working at the same time, and you are 23 not suggesting man-marking? 24 A. Not man-marking, no, but I think a supervisor would have 25 enough experience and competence to see if there were</p>

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1 problems starting to occur. So, rather than seeing
 2 workers easily screwing in a coupler or whether the
 3 coupler is screwed into the bar, whichever way around it
 4 is, or whether they are struggling and they're having to
 5 force it in or if they're getting hacksaws out to cut
 6 off the screw, then that's actually -- the supervisor
 7 would have enough experience to step in and say, "That's
 8 not what you should be doing", or to give advice on how
 9 it should be done.

10 Q. That actually conveniently brings us to the
 11 one-to-ten --

12 CHAIRMAN: Sorry, I'm interrupting.

13 Could there be man-marking on a limited basis, if
 14 you have 10 or 15 workers, you have to be there in the
 15 vicinity watching them all put in the rebars in a very
 16 complicated issue, and then have a system whereby when
 17 each rebar is in, somebody just raises their hands and
 18 says "Rebar done", or something like that, and you go
 19 across and double-check it and say "That's great" or
 20 "Not great"?

21 This is from me, as a complete layman. I've never
 22 been down there, I've never been near a rebar other than
 23 in this Commission of Inquiry.

24 A. Yes, I think at certain times, at certain key
 25 activities, the supervisor in effect will be -- won't be

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1 man-marking but there would probably be two or three
 2 people there and he or she will be paying particular
 3 attention to ensure they are doing it right and they're
 4 not coming up against problems.

5 But the specification is that there's a minimum of
 6 one supervisor for ten. If you've got a particularly
 7 critical activity where the contractor knows that, you
 8 know, if this goes wrong then we are going to have to do
 9 it again -- and part of having the supervisor there is
 10 to get it right first time. It's an efficiency thing as
 11 well as a safety thing. The contractor doesn't want to
 12 have to repeat work, so he wants it to be done right and
 13 he wants to make sure he has a supervisor there to
 14 ensure that happens.

15 So yes, I think where a supervisor is looking after
 16 a group, it's highly unusual that everybody would be
 17 undertaking a very critical activity at exactly the same
 18 time. If there were, then he might get on the radio and
 19 say, "Can someone come along and help me supervise this
 20 bit of work because I need some help". There should be
 21 that flexibility to ensure that there's enough
 22 supervision there to make sure the job is done right and
 23 it's done safely and it doesn't have to be done again,
 24 which is where you run into abortive costs and
 25 inefficient working.

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1 CHAIRMAN: You see, a reason I raise that is because, as
 2 I understand it, putting in the rebar into the coupler
 3 is a slightly more specific activity, if I can put it
 4 that way, then perhaps I had fully understood. I mean,
 5 if there's more than two threads showing, for example,
 6 on one approach, you needn't have bothered; it means
 7 nothing. There's no rebar, there's no coupler. That to
 8 me as a layman is a bit difficult to comprehend, but
 9 that's a statistic approach. I'm just wondering, if
 10 it is that difficult and if there's one or two threads
 11 in it or perhaps no clunking sound as it goes
 12 butt-to-butt, then you might not have a situation where
 13 you don't have to actually stand there watching each
 14 person do every single thing, but as each party says,
 15 "That one's done, let's move on", just before you move
 16 on, you put your hand up and the inspector comes along,
 17 he just double-checks that it's okay.

18 A. I think that's right.

19 CHAIRMAN: It takes two seconds.

20 A. Where the work is going smoothly and there's no
 21 problems, I think that's fine. The supervisor can see
 22 that it's being screwed in and it's going well. What
 23 can often happen is you get a bit of dirt in the thread,
 24 it doesn't quite connect up properly. There's always
 25 the risk of a crossed thread, and the supervisor will be

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1 able to see that they are struggling and that's where he
 2 might move in and say, "Hang on, let's have a look and
 3 see what's causing the problem."

4 Generally, yes, where it's going smoothly, that's
 5 quite possible, that the workers will say, "Can you
 6 check this one, please, and make sure we have done it."

7 COMMISSIONER HANSFORD: That's a slightly different point.

8 A. Is it? Sorry.

9 COMMISSIONER HANSFORD: Well, I think that's a slightly
 10 different point, because I think what we are talking
 11 about here is a supervisor checking whether the works
 12 are problematic at all. So he's seeing if the works are
 13 going smoothly, and so the one in ten or the supervisor
 14 supervising ten people can look and see and get
 15 an indication that everything seems to be going
 16 smoothly.

17 That's a different point to inspection --

18 A. It is, yes.

19 COMMISSIONER HANSFORD: -- which is looking at has every bar
 20 actually reached the pass/fail criteria. My
 21 understanding is that's what happens at the hold point;
 22 is that right?

23 A. That's correct, yes, but to get to the hold point the
 24 contractor should have satisfied themselves that the
 25 work has been properly done in accordance with the

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1 contract and the person submitting the form signs to
 2 that effect: the works are ready for inspection and it
 3 is in accordance with the contract. What they shouldn't
 4 be doing is notifying that works are ready for
 5 inspection knowing that there are still defects.
 6 COMMISSIONER HANSFORD: So are you telling us that the
 7 supervisors should be ensuring that the works are
 8 carried out in a way that, when they are presented for
 9 inspection, they will pass that inspection?
 10 A. Yes. This is part of the overall quality process. You
 11 know, the risk procedure isn't just about the form. The
 12 overall supervision, surveillance and inspection process
 13 starts off with, you know, having the right drawings,
 14 the workers doing the work to the correct drawings,
 15 making sure that it's installed properly.
 16 COMMISSIONER HANSFORD: Yes.
 17 A. And that's why the specification requires supervision by
 18 the contractor and surveillance by MTR, and for these
 19 key areas it's full-time continuous supervision,
 20 20 per cent surveillance by MTR. If all those things
 21 are done properly, then there is a good chance, at the
 22 end of that, the work will have been executed in
 23 accordance with the contract, it can be inspected, and
 24 it should be a routine matter to then sign it off and to
 25 cover it up.

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1 That's what the quality assurance process is about,
 2 and if you start to not have proper surveillance, not
 3 have proper supervision, then the overall quality
 4 process is not being fully followed and that's when you
 5 start to get the problems.
 6 COMMISSIONER HANSFORD: And is it the case that if you don't
 7 have proper supervision and you don't have proper
 8 surveillance by the contractor, and indeed by MTR, then
 9 there's far more reliance being placed on the hold-point
 10 inspection, because the hold-point inspection, if you
 11 like, is the last line of defence, and if the previous
 12 lines of defence have not been carried out then that
 13 becomes much more critical? Is that the case?
 14 A. Indeed, and I think you'd have to allow significantly
 15 longer and you'd have to make sure that you could access
 16 all of the couplers, you know, even those in the bottom
 17 mats. And if you can't access them then you would have
 18 to say, "You need to take this apart again so that I can
 19 inspect those couplers. I can't see them, therefore
 20 I can't sign off that they're correct."
 21 COMMISSIONER HANSFORD: Well, because the access to the
 22 hold-point inspection may be difficult, do you see the
 23 supervision and surveillance process as actually being
 24 a line of assurance --
 25 A. Indeed, yes.

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1 COMMISSIONER HANSFORD: -- that actually deals with or
 2 rather mitigates the difficulties that there might be
 3 with close access to the hold-point inspections; would
 4 that be the case?
 5 A. That's exactly what it is. It's part of the quality
 6 assurance. It's giving greater assurance. But I would
 7 also say that the inspection and test -- the ITPs should
 8 also consider whether those inspections can properly see
 9 all of the works.
 10 So we heard in the original part of the Inquiry that
 11 the bottom mats had to be inspected before the top mats
 12 were put in place.
 13 COMMISSIONER HANSFORD: Yes.
 14 A. Otherwise you wouldn't be able to see the bottom mats,
 15 and the same may have been the case with the stitch
 16 joints, that the top level of reinforcement is quite
 17 intense. Whether you could properly see and check that
 18 couplers in the bottom mat were properly joined up --
 19 you know, that's an uncertainty.
 20 COMMISSIONER HANSFORD: Thank you.
 21 CHAIRMAN: Prof Hansford just used a phrase a bit earlier
 22 which I think encapsulates, really, what I was beating
 23 the grass to try and discover. He says, at [draft]
 24 page 45, line 20:
 25 "So are you telling us that the supervisors should

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1 be ensuring that the works are carried out in a way
 2 that, when they are presented for inspection, they will
 3 pass that inspection?"
 4 A. I think that's the objective, yes.
 5 CHAIRMAN: And therefore you must read, in part at least,
 6 the words "full-time and continuous" with that, because
 7 "full-time and continuous" will ensure that?
 8 A. It certainly should go a long way to ensuring it.
 9 CHAIRMAN: That's what I'm saying, in part only.
 10 A. Yes.
 11 CHAIRMAN: That then does away with the sometimes very
 12 difficult task when faced with a large and complex
 13 matting of rebars put into -- they're secured in
 14 whatever ways -- it becomes a very difficult task at
 15 a hold point to try and check that all of them are fully
 16 and correctly put in, especially when we're looking at
 17 two or three threads making a difference?
 18 A. Yes. I think you might well get a situation where the
 19 contractor says to the MTR's inspectors, "Look, we have
 20 completed these bottom bars, you can have a look at
 21 them; we are now going to be doing the top mat but you
 22 can have a look at the couplers in the bottom layer
 23 before we move on with the following work." So, whilst
 24 that might not be -- at that stage, you might not sign
 25 the RISC form at that stage, but at least the inspectors

Page 49	1 will have seen that those couplers will have been 2 properly connected before subsequent work is undertaken 3 which prevents access to examine them closely. 4 CHAIRMAN: Thank you. 5 I'm sorry. 6 MR CHANG: Thank you, Chairman. 7 Riding on the exchange between you and the 8 Commission, approaching from a purely layman's point of 9 view, I would have thought a supervisor supervises, 10 inspection is for inspectors, but you seem to be 11 suggesting supervisors ought to carry out a certain 12 degree of inspections at the same time so as to ensure 13 that the product will pass the hold-point inspections? 14 A. In terms of terminology -- it's two questions. In terms 15 of terminology I did point out in my first report that 16 if you look at the PIMS documents and the contract 17 documents, there are lots of different terms used, 18 there's "surveillance", "superintendence", 19 "supervision", "inspection", and quite often it is the 20 same person that is undertaking many of those roles. So 21 excuse me if I'm using different terminology. I did 22 suggest there could be a consistency of terminology 23 which may benefit. 24 In terms of the level of supervision and 25 surveillance, it is clearly the intention that that	Page 51	1 formulation, if "supervision" or "full-time and 2 continuous supervision" means the supervisors need to be 3 satisfied that the finished product will pass hold-point 4 inspection, should this not be made clearer in either 5 the BD consultation letters or the QSP? 6 A. Yes. I did recommend, in my first report, that 7 full-time -- ultimately it flows from the government 8 because the government has set out in its Code of 9 Practice when it wishes to see full-time and continuous 10 supervision applied, and I assume the government does 11 that because they want to ensure that that risk is 12 properly managed, and if that's the level of supervision 13 that the government wants then that's what should be 14 provided. But, if there is any doubt about what it 15 means, then I think it should be clarified so that it's 16 clear that that means 100 per cent attendance and not 17 70 per cent attendance, allowing for breaks and trips 18 back to the office and things. 19 So, yes, I agree, it should be made clear. 20 Q. And not only 100 per cent or 70 per cent attendance, but 21 more importantly, as in your discussion with the 22 Commission, the requirement that the supervisor need to 23 be satisfied that the finished product will pass hold 24 point? 25 A. Yes. To me that's no more than common sense and good
Page 50	1 superintendence is there to make sure that the work is 2 done safely and in accordance with the contract, so that 3 if the supervisors are doing their job, when there is 4 then a requirement for a formal inspection, by 5 inspectors who might also happen to be people who are 6 undertaking surveillance, but they are then formal 7 inspectors who will sign off, if the work is done in 8 accordance with the contract. 9 Does that answer your question? 10 Q. But there's no express provisions, in either the BD 11 consultation letters or the QSP, requiring the 12 supervisors to actually carry out any degree of 13 inspection. Do you accept that? 14 A. I think you are differentiating between supervision and 15 inspection. What I would say is there is informal 16 inspection and there's formal inspection. So the formal 17 inspection comes when the RISC form is presented and 18 you're required to sign off, but you may well have 19 informal inspection at any stage during the course of 20 the works, where the contractor calls across an MTR 21 engineer and says, "Just have a look at this; are you 22 going to be happy with this?", that sort of thing, and 23 that's an inspection with a small i, I think. 24 Q. But again, looking into the future, from a project 25 management point of view, and adopting Prof Hansford's	Page 52	1 practice. 2 CHAIRMAN: Isn't that what a supervisor does? Because it 3 just seems to me that part of a supervisor's job is to 4 say, "Right, we are going to do activity A, and yes, you 5 are doing it correctly, and let's have a look; yes, it 6 has been done correctly, thank you." All of those 7 things take place together, as an overall activity, 8 which must include making sure it's done correctly. 9 MR CHANG: I've always -- again, from a purely layman's 10 point of view, I have always approached supervisors as 11 some sort of invigilators in an exam hall. So different 12 candidates are writing their paper, there's no need and 13 no way for the invigilator to look at the exam scripts 14 to make sure there's no cheating or all the answers were 15 provided in a nice way. That's how I understood. 16 CHAIRMAN: But there of course is a different situation. 17 There is a specific statement of integrity that the 18 person doing the exam must work on their own and should 19 not be assisted, whereas if you try, for example, from 20 my own experience of having to do national service 21 100 years ago, you try to get a vehicle across a flooded 22 river and you are trying to supervise ten people to get 23 that done, unless you say to them yes, it's okay and the 24 vehicle is not going to fall back into the river and 25 checking that it's been done correctly, you are not

Page 53	1 supervising it. Perhaps just a difference, that's all. 2 MR CHANG: In any event, we have Mr Rowsell's point that it 3 could have been made clearer in the document so I think 4 I will move on from this aspect. 5 CHAIRMAN: Yes. 6 COMMISSIONER HANSFORD: I don't think anybody is 7 recommending that we call them invigilators. 8 MR CHANG: Again it's a matter of terminology. 9 COMMISSIONER HANSFORD: I understand your point, but 10 I wouldn't want anybody to think that we would advocate 11 having people on site who are watching things happen, 12 watching the wrong things happen, and doing nothing 13 about it. 14 MR CHANG: The next topic is conveniently one-to-ten ratio. 15 Again, I gather from your report that you derive that 16 from the General Specification providing -- there's 17 a particular clause, G3.9.1. Can we look at that 18 clause. Bundle C3, page 2040. 19 It's up on the screen. 20 A. Thank you. 21 Q. That's a part on which you relied and said therefore you 22 recommended there should be at least one supervisor to 23 no more than ten workers, so the one-to-ten ratio comes 24 from here; correct? 25 A. Yes.
Page 54	1 Q. If we look at the section heading -- first of all, this 2 part concerns site safety and health; do you accept 3 that? 4 A. I accept it's in a section which has a heading "Health 5 and safety", yes. 6 Q. So do you accept that this provision does not expressly 7 refer to this one-to-ten ratio being a quality assurance 8 matter? 9 A. I don't accept that. I think this -- to me, it's quite 10 clearly about site supervision, and it's included here 11 because one of the aspects of supervision is to ensure 12 that all works on site are carried out safely. I don't 13 think it's intended in any way, that would be my 14 interpretation anyway, that it was meant to just relate 15 to health and safety, because that would imply that 16 you've got a team of health and safety supervisors who 17 are doing nothing else. 18 I mean, what you don't have on site is a team of 19 health and safety supervisors and a team of quality 20 supervisors and a team of technical supervisors. You 21 know, you have supervisors who are looking because they 22 are able to look at all aspects, including health and 23 safety, technical and quality assurance. 24 Q. But you do accept this did not specifically refer to 25 rebar fixing or coupler works, this one-to-ten ratio?
Page 55	1 A. I think it is a general requirement, it's in the General 2 Specification, it's a general requirement, in my 3 opinion, my humble opinion, relating to site supervision 4 across all works. It refers to "works shall be arranged 5 so that the Works"; it doesn't split it down into any 6 elements. It's all elements of "the Works are 7 supervised at a minimum ratio of 1 supervisor to no more 8 than 10". I interpret that -- it might be a legal 9 matter but I interpret that as being a requirement for 10 general site supervision which is not out of line with 11 what I would expect on projects of this type. 12 Q. But would you agree that, again from a project 13 management point of view, if say the BD wished to impose 14 this one-to-ten ratio, it ought to make it expressly 15 clear in the BD consultation letters? 16 A. Well -- 17 Q. To avoid any doubt. 18 A. Well, the Code of Practice has to be incorporated by MTR 19 into its contract, into its specifications, and MTR also 20 has to incorporate its project management procedures 21 into the specifications, insofar as they require the 22 contractor to do something. So I think this is MTR 23 putting into the contract and specification the 24 requirements they think are appropriate to ensure that 25 MTR is fulfilling its obligations to the government as
Page 56	1 the project manager. 2 Q. Moving forward, from a project management point of view, 3 if this one-to-ten ratio were to be applicable to all 4 aspects of the works, not only health and safety, would 5 you accept that it ought to have been made clearer? 6 A. I can see that -- I think it's reasonably clear that at 7 tender stage, when the tenderers were responding to 8 this, if they were in any doubt that that did not relate 9 to general site supervision, then they should have 10 clarified it. If it's considered there is any doubt, 11 then I suppose it may have been better to have this 12 under a section related to site supervision rather than 13 health and safety. But I think the reason for putting 14 it here is that first line that says: 15 "The Contractor shall provide adequate supervision 16 to ensure that all works on Site are carried out 17 safely." 18 So there is a safety element to site supervision, 19 and that's probably, in my opinion, why they included it 20 in this section. But if there is any element of doubt 21 then on future contracts it could be located somewhere 22 else. 23 MR CHANG: Mr Chairman and Professor, I note the time. 24 Would this be a convenient moment? 25 CHAIRMAN: Yes. Certainly.

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<p>1 MR CHANG: I will be around 30 minutes more with Mr Rowsell.</p> <p>2 CHAIRMAN: Good. Thank you very much. 20 minutes.</p> <p>3 Mr Rowsell, you are already aware --</p> <p>4 WITNESS: Yes, I am.</p> <p>5 CHAIRMAN: -- not to consult with anybody during the break.</p> <p>6 Thank you.</p> <p>7 WITNESS: Thank you.</p> <p>8 (11.31 am)</p> <p>9 (A short adjournment)</p> <p>10 (11.54 am)</p> <p>11 MR CHANG: Mr Rowsell, still on the one-to-ten ratio. This</p> <p>12 is the only part of my questions which I'm afraid I have</p> <p>13 to put one proposition to you.</p> <p>14 First of all, you accept the BD consultation letters</p> <p>15 and the QSP have specific reference to couplers with</p> <p>16 a ductility requirement and the level of supervision</p> <p>17 required?</p> <p>18 A. Yes.</p> <p>19 Q. The reference to the General Specification in your</p> <p>20 report as the basis for the one-to-ten ratio, you would</p> <p>21 also accept it's of a more general nature than the</p> <p>22 specific requirement set out in the BD consultation</p> <p>23 letters and the QSP?</p> <p>24 A. It's a general requirement, yes.</p> <p>25 Q. So again I'm afraid I have to suggest to you it's wrong</p>	<p>1 with Leighton that sets out the level of supervision</p> <p>2 that is expected, and I think that's helpful to have</p> <p>3 that in the General Specification so that when tenderers</p> <p>4 are bidding for work they can see what level of resource</p> <p>5 they will be required to provide during the course of</p> <p>6 the contract. So it puts all the tenderers on a level</p> <p>7 playing field to ensure there's consistency in the</p> <p>8 resource provisions that they allow, and then that is</p> <p>9 the general level of supervision required for all works.</p> <p>10 I think what you're saying is should that also be in</p> <p>11 the BD letters -- is that what you're putting to me?</p> <p>12 Q. In fact I would go further to say it would have been in</p> <p>13 the BD letters and the QSP, and therefore it's wrong to</p> <p>14 transpose what's stated in the general specs as</p> <p>15 a specific requirement for couplers with a ductility</p> <p>16 requirement.</p> <p>17 A. Okay. I think the QSP covers areas that BD consider to</p> <p>18 be high-risk, and so they are setting out, in addition</p> <p>19 to whatever MTR set out in terms of general</p> <p>20 requirements, saying, "This is a higher risk area,</p> <p>21 therefore, those areas, we need full-time and continuous</p> <p>22 supervision." If you're asking me what is the</p> <p>23 difference between full-time and continuous and what is</p> <p>24 the level of one in ten, how does that fit in with</p> <p>25 that -- I would accept that overall it would be possible</p>
Page 58	Page 60
<p>1 for you to transpose the general requirement under the</p> <p>2 General Specification of one-to-ten which applies, we</p> <p>3 say, only to health and safety, to the specific</p> <p>4 supervision requirement that is required for couplers</p> <p>5 with a ductility requirement, which ought to be set out</p> <p>6 in the BD consultation letters and the QSP. Would you</p> <p>7 accept that?</p> <p>8 A. I don't accept that the one-to-ten only relates to</p> <p>9 health and safety. My view is it's a general</p> <p>10 supervision requirement. I understand your point that</p> <p>11 the BD letters could also include further information or</p> <p>12 further details about the level of supervision.</p> <p>13 Q. I'm just wondering, if we have a specific document like</p> <p>14 the BD letters and the QSP, which address couplers with</p> <p>15 a ductility requirement, which makes no mention of</p> <p>16 one-to-ten, then from a project management point of view</p> <p>17 how would the contractor be able to understand that in</p> <p>18 fact this ratio needs to be implemented?</p> <p>19 A. Well, there are letters covering couplers with ductility</p> <p>20 and letters covering couplers without ductility, but --</p> <p>21 Q. Both without one-to-ten?</p> <p>22 A. But the one-to-ten is in the General Specification which</p> <p>23 applies to all works under the contract. So I'm not</p> <p>24 quite sure where the difficulty lies, personally. There</p> <p>25 is a general requirement set out by MTR in its contract</p>	<p>1 to present those overall requirements in a clearer way,</p> <p>2 to ensure that everybody's expectations are achieved.</p> <p>3 Q. Now, on the basis of one-to-ten ratio being applicable,</p> <p>4 and also on the basis that QSP applies, then you are</p> <p>5 aware that a TCP-3 level supervisor is required?</p> <p>6 A. Yes.</p> <p>7 Q. So it would mean one TCP-3 to ten workers, ten rebar</p> <p>8 fixing workers?</p> <p>9 A. That's my understanding, yes.</p> <p>10 Q. And you are also aware --</p> <p>11 A. They're not necessarily reinforcement bar fixers. It's</p> <p>12 ten workers.</p> <p>13 Q. Yes, but for the purposes of this Extended Inquiry we</p> <p>14 are talking about rebar fixers.</p> <p>15 A. Whether they are all rebar fixers or whether they are</p> <p>16 general labourers or whatever -- but yes.</p> <p>17 Q. But for the specific purpose of slotting a rebar into</p> <p>18 a coupler, one-to-ten ratio means one TCP-3 to ten rebar</p> <p>19 fixing workers; correct?</p> <p>20 A. That's my understanding, yes.</p> <p>21 Q. Mr Wall gave evidence -- I believe you were at the</p> <p>22 Inquiry as well -- saying that, well, from a practical</p> <p>23 point of view in fact, we need more than one, because</p> <p>24 taking into account meal breaks and other works that the</p> <p>25 supervisor needs to take care of apart from supervising</p>

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<p>1 works, so probably need two to three times more. Would 2 you accept that, as a matter of project management? 3 A. No, I'm not quite sure how he -- he said you would need 4 three times as many, I didn't understand how that would 5 be the case, because he was saying that one supervisor 6 might be there 70 per cent of the time, so if you wanted 7 to achieve 100 per cent of the time, that would only add 8 a third of an extra supervisor. 9 Q. Perhaps to quickly go to Mr Wall's evidence. Day 17, 10 page 58, lines 11 to 22. If you can look at the screen, 11 Mr Rowsell: 12 "In terms of the pricing that you have for works, 13 the availability of engineers, the resources ... So, if 14 we are talking about full-time and continuous 15 supervision, perhaps we might, as I believe Leighton has 16 provided, you might have an engineer working for or 17 supervising a piece of work. That would no longer be 18 acceptable; you might have to have two or three 19 engineers working or looking after a particular piece of 20 work so that one of them can take bathroom breaks, one 21 can stop for lunch, one can go on leave. I think that 22 is not the reasonable expectation." 23 So again Mr Wall is suggesting in a practical sense 24 one-to-ten doesn't really mean one-to-ten because you 25 need to take into account the one supervisor may need to</p>	<p>1 a diploma? 2 A. Yes, but the contractor knew that from the outset. 3 CHAIRMAN: Sorry, with a what degree? 4 MR CHANG: An engineer with a university degree, or a highly 5 experienced engineer with a diploma. When I say "highly 6 experienced" it refers to at least five years. 7 CHAIRMAN: Thank you. 8 MR CHANG: For the Commission's reference, that's set out in 9 the technical memorandum. 10 CHAIRMAN: That's right. 11 MR CHANG: It's bundle B5/2829. 12 CHAIRMAN: Thank you. The reason I asked is I didn't hear 13 what came up with the first degree and I think the 14 shorthand writer didn't catch it either. I just wanted 15 to clarify that. 16 MR CHANG: It's "university degree". 17 CHAIRMAN: Thank you. 18 MR CHANG: Do you agree that in order to meet the one-to-ten 19 ratio, you would have to deploy, let's say, even on your 20 calculation, at least 13 to 14 TCP-3s over 100 workers? 21 A. I think the other thing you've got to consider is that 22 the T3 requirement applies where there is a QSP in 23 place -- 24 Q. Yes. 25 A. -- which are relatively limited parts of the site.</p>
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<p>1 attend to other matters, so effectively it means either 2 two or even three supervisors to ten workers? 3 A. I accept that in order to get one-to-ten level you would 4 need slightly more than to have one-to-ten. You would 5 need to have a slightly larger pool, but it wouldn't be 6 three times as many, which is what Mr Wall was 7 suggesting. 8 In terms of practicalities, bathroom breaks, I don't 9 think that any reasonable interpretation of "full-time 10 and continuous" would prevent a supervisor from going to 11 the toilet. Stopping for lunch, quite often there is 12 a lunch break whereby the workers would take a break as 13 well, so that can be coordinated. If you go on leave, 14 then I would accept then you have to have some 15 additional inspectors available to cover those periods 16 of leave. But -- I did a quick calculation and my 17 estimate was you might need about a third extra in order 18 to provide full-time and continuous. So, if you 19 needed -- if you had 100 workers, ten inspectors, in 20 order to achieve continuous supervision, you might need 21 13 or 14 supervisors rather than the ten. But 22 I wouldn't accept you need three times as many. 23 Q. But you are aware of the qualification required of 24 a TCP-3; correct? It's either an engineer with 25 university degree or an experienced engineer with</p>	<p>1 Where full-time supervision is required under those 2 letters of acceptance, but there is no QSP, then it's 3 a T1 supervisor, not a T3. So it only applies in those 4 areas identified as being high-risk and as requiring 5 a QSP. 6 My view would be, you know, the government has set 7 out, through its Codes of Practice, that these are 8 high-risk areas. It's set out the level of supervision 9 that is going to be required. The contractor should be 10 aware of that from the tender documentations. If there 11 was any room for doubt, then they should have clarified 12 during the tender period what was required. And they 13 tendered on the basis that they would be able to provide 14 that. 15 Again, if you have resource planning, if you can see 16 that in years 2 or 3 of the contract you are going to 17 have this higher level of supervisors, then there's time 18 to develop and put in place the specialist resources 19 that the contractor needs. I think that's all part of 20 being a contractor and managing the resources that are 21 going to be needed. 22 Q. Now, for the areas where the QSP applies, do you accept, 23 even on your calculation, 13 or 14 TCP-3s to 100 24 workers, this sort of ratio is not common in the 25 industry in Hong Kong?</p>

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<p>1 A. Well, it's based on the government's Code of Practice 2 for full-time and continuous requirement. So I'm not 3 sure why you say it's not common. 4 Q. But do you agree that in order to implement this ratio, 5 this would significantly increase the cost? 6 A. Yes, which should have been allowed for in the tender 7 price. 8 Q. I'll move on from one-to-ten to the next area, 9 non-identification of defects. 10 Can I trouble you to turn up your report for the 11 Extended Inquiry, paragraph 52. Again, you have set out 12 your observations as to possible contributing factors to 13 non-identification of defects during the inspections, 14 and you have set out in items (a) to (l) -- now, again 15 I wish to go through a number of items with you, 16 Mr Rowsell -- 17 A. Okay. 18 Q. -- if we may. 19 Item (d), "possible insufficient resources in the 20 supervision, surveillance and inspection teams" -- now, 21 again, just to clarify, are you suggesting corners were 22 cut because of shortage of time and not enough time was 23 dedicated to each inspection? 24 A. Again, as with the previous list, I'm listing potential 25 contributory factors and saying these are risks -- what</p>	<p>1 that, particularly on the MTR side, they were willing to 2 go along with the alternative procedure to the RISC 3 procedure, in order to avoid delays to the work 4 programme. They felt there was pressure on them to 5 allow -- to ensure that work could proceed. 6 Q. But what I find lacking is the causal link between the 7 adoption of this what you call informal or alternative 8 procedure to non-identification of defects. 9 A. Well, again, the whole risk procedure has developed over 10 a number of years and its overall procedure which is 11 aimed at ensuring the quality of the product. So if you 12 start cutting corners in the process, so, you know, if 13 you start allowing inspections to take place at short 14 notice, before the inspectors have had time to make sure 15 they've got the right drawings, to make sure that 16 they've fully understood the method statements, to make 17 sure that they prepare for those inspections, there's 18 a risk that they might not undertake the inspections as 19 effectively as they might have done, and part of that 20 might be because they agreed to do an inspection at 21 short notice because they recognise that it may 22 otherwise impact on the work programme. So -- 23 Q. But having an inspection without a RISC form would not 24 by itself impact on the quality of the inspection; do 25 you agree?</p>
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<p>1 I'm saying is I don't fully understand how those defects 2 were missed, so I'm coming up with possible 3 explanations, in my opinion. I'm not suggesting that 4 all of these occurred in all of the instances, but what 5 I'm saying is these are potential risks because the 6 cause of the missed defects is unexplained. These are 7 risks that ought to be managed in the future. 8 Q. But you are not suggesting this was in fact what 9 happened in this particular project which forms the 10 subject matter of this Inquiry? 11 A. I don't have any specific evidence to say -- I suppose 12 the evidence may be that if you are saying that Leighton 13 had a different interpretation of what the supervision 14 requirements were, then you could say that if Leighton 15 actually applied a different level of supervision based 16 on a different interpretation, then that would suggest 17 there was a lower level of supervision that may have 18 occurred. 19 Q. Item (e), "a desire in the inspection teams not to cause 20 delays to the work programme" -- again, I wish to 21 clarify, what's the factual basis for this, insofar as 22 this particular project is concerned, or are you again 23 suggesting this is a possible risk? 24 A. No. There were witness statements which I probably 25 referred to in my report, where witnesses did set out</p>	<p>1 A. Ah, no, the RISC form is part of a procedure, and that 2 procedure is there to ensure that the right drawings 3 have been identified. So, on the RISC form, it 4 identifies what are the drawings that inspection is 5 going to use as the basis for the inspection, and 6 clearly the inspector should check: is that the right, 7 latest drawing that I'm going to use? So the inspector 8 needs time to check that. They need -- you need to make 9 sure that the people of the right level and the right 10 skills, as we've already identified, are undertaking the 11 inspection. So there's a whole number of things that 12 need to be done, and if you are bypassing any elements 13 of that procedure then you're putting the overall 14 quality assurance process at risk, and if you're not 15 assuring the quality then the inspections might be 16 ineffective because the right people are not undertaking 17 the inspections or the right drawings are not being 18 used. 19 Q. I will move on to the next item, "reduced periods of 20 notice given by the contractor that inspections were 21 required to be carried out by the informal social media 22 platforms and the failure to follow the formal RISC 23 procedures". 24 So focusing on "notice period", if I can trouble you 25 to turn up the -- go to the joint statement, at</p>

Page 69	1 paragraph 21. In particular, the third line: 2 "MTRCL did not insist on the minimum 3-day notice 3 period for inspections even though they could have 4 insisted on it. We are agreed that this notice period 5 was not critical for MTRCL and Leighton's site team to 6 conduct the necessary inspections because these staff 7 were present on site and carrying out ongoing 8 supervision of the works during construction." 9 So, in light of this paragraph in the joint 10 statement, would you still maintain item (f) in your 11 report, that the reduced notice period in any way 12 contributed to the defects not being spotted? 13 A. Well, I would, because we are agreed that three days is 14 not critical; however, what I'm saying is that 15 sufficient notice needs to be given, and I got the 16 impression from some witnesses that they were receiving 17 WhatsApp messages to say, "Can you come more or less now 18 and inspect some works which are ready?" So, when you 19 are reducing from three days possibly down to a matter 20 of half an hour, I think that's extreme. 21 What I'm saying there is that the MTR did cooperate 22 by not insisting that every inspection had to have three 23 days' notice, but what I'm saying is that if the MTR 24 inspectors got into the habit of always responding 25 without ensuring that they had allowed themselves enough	Page 71	1 Q. But when you speak of reasonable notice or sufficient 2 notice being given to the inspectors, all that is 3 required before the inspectors to be prepared to carry 4 out the inspection would be for them to have the working 5 drawings. What else do they need to get themselves 6 prepared? 7 A. Well, to make sure they have got the right drawings, to 8 make sure they understand those drawings, to make sure 9 they've looked at the method statement, to make sure 10 they've looked at the inspection and test plans. So 11 it's not just working drawings, but to make sure there's 12 method statements and make sure they are understanding 13 all those requirements. 14 Q. But, as you pointed out in your joint statement, these 15 engineers or inspectors have been around on site already 16 throughout the process, so why do they need so much time 17 to familiarise themselves? 18 A. They may or may not have been. You can't guarantee that 19 every inspector is going to be -- they might be 20 relatively new -- inspectors are replaced during the 21 course of the works through natural turnover, or 22 whatever. You might have an inspector who is very new 23 and that might be a very good reason why they need the 24 full three days. If it's a complex piece of work, if 25 they're not familiar, if they've only just joined the
Page 70	1 time to prepare for the inspections, then there was 2 a risk that the inspections would not be effective. 3 Q. But you have seen no evidence presented in this Inquiry 4 to the effect that any of the MTR inspectors claimed 5 that, "Ah, you told me to come within such a short 6 period that I'm not prepared to do the inspection 7 properly"? 8 A. I haven't seen any evidence which said that they could 9 have insisted on the three days, but the three days is 10 there in the General Specification, and again I couldn't 11 say that the inspectors were aware that they could have 12 insisted on three days. Again, this might be down to -- 13 you know, we've identified there are a number of aspects 14 where there wasn't any training provided, and this might 15 be another aspect where they are not fully understanding 16 the importance of quality assurance and, as part of that 17 quality assurance, there's a process that's developed 18 over a number of years and in a worst-case scenario you 19 may need three days, but in many instances you won't 20 need three days but you may still need half a day or 21 a day. I think there was evidence to show that if you 22 did follow the RISC form, then the RISC procedures would 23 take about a day. You know, you needed about a day's 24 notice to make sure the RISC forms were entered onto the 25 system and all that.	Page 72	1 site, then three days might be entirely appropriate. 2 Q. Yes. Moving on to the next item, item (g), 3 "a willingness" -- going back to the Extended Inquiry 4 report -- "by MTRCL staff to undertake inspections 5 despite inadequate notice being given and appropriate 6 procedures being followed". 7 Now, "inadequate notice", again you are referring 8 back to item (f), the reduced periods of notice? 9 A. Yes. 10 Q. So inadequate in the sense that it's not sufficient to 11 enable them to get themselves fully prepared? 12 A. Yes, and for them to make sure -- again, if you've got 13 inspectors who haven't been fully trained in the 14 importance of quality procedures, it may be easy for 15 them not to do the preparation that they should be 16 doing. You know, when I was on site, I always reminded 17 inspectors to make sure that they do prepare, that if 18 you just go along and the first time you're looking at 19 the drawings is when the work is facing you and you are 20 holding the drawings and trying to work out what's 21 required, then you are under enormous pressure to do the 22 thing quickly. So it's making sure that the inspectors 23 understand why it's important to be given adequate 24 notice. 25 Q. "Appropriate procedures being followed" -- by this you

Page 73	1 mean the submission of RISC forms before any hold-point 2 inspection were to take place; correct? 3 A. Yes. 4 Q. Item (i), "lack of oversight by senior 5 inspectors/engineers to ensure that inspections were 6 being undertaken effectively". 7 Just to be absolutely clear, you are referring to 8 MTR inspectors and engineers; correct? 9 A. Yes. My report is focused on MTR's procedures, yes. 10 Q. Similarly for item (j), "the lack of site audits or 11 their failure to identify that procedures were not being 12 applied and problems were not being detected", you are 13 referring to MTRC? 14 A. That's MTR, yes. 15 Q. So that doesn't concern us. 16 The last topic I wish to discuss with you is 17 management of interface risk. 18 A. Okay. 19 Q. I need to go back to the first part of your report, 20 paragraph 23, in particular item (c). Sorry, it's the 21 report for the Extended Inquiry, paragraph 23, internal 22 page 16. That's correct, "Clause 16". 23 If you go to the next page, on top: 24 "My observations: I understand from the evidence 25 I have seen, that no method statement was specifically	Page 75	1 refer to in this part of your report was accepted by 2 MTR. So, from a project management point of view, would 3 you suggest MTR ought not have accepted that method 4 statement, if it found any particulars or specifications 5 lacking? 6 A. Well, there were some specific aspects of Z2 that needed 7 to be covered in the method statement, relating to 8 discussions with the C1111 contractor and to set out 9 details of the design at the other contractor's part of 10 the interface. 11 I mean, if the overall method, the generic method 12 statement you are referring to, if that covered the 13 requirements of Z2, then I would have to accept that 14 that met the requirements, but -- 15 Q. I'm not suggesting that. I'm saying let's assume the 16 generic statement didn't cover specifically -- 17 A. If it didn't cover it -- 18 Q. -- but nevertheless MTRC accepted it. So my question 19 is, from a project management point of view, as the 20 project manager, should MTRC have accepted the method 21 statement? 22 A. Well, it depends whether the generic one specifically 23 identified that it included the requirements of Z2 or 24 whether those requirements would be set out in 25 a separate method statement.
Page 74	1 produced for the construction of the original 3 stitch 2 joints. There was just a generic '... method statement 3 of permanent structure construction of EWL and NSL at 4 NAT'. In my opinion, this was a failure to deliver the 5 contract requirements and it also breached the 6 interfacing requirements set out in appendix Z2 of the 7 Particular Specification which also required a method 8 statement to be produced and which I discuss in more 9 detail later in this report." 10 Now, it's a matter of contractual interpretation but 11 do you accept that the contractual requirements did not 12 expressly require a separate and distinct method 13 statement only to cater for the three stitch joints? 14 A. Only -- can you repeat the last point, sorry? 15 Q. The contractual documents did not require a separate and 16 distinct method statement addressing only the three 17 stitch joints? 18 A. My understanding was that appendix Z2 did require 19 a method statement. 20 Q. Yes, but what I'm talking about is a separate, distinct 21 one, only catering for the stitch joints. 22 A. The way I read Z2, Z2 is specifically focused on the 23 interface, and that specifically refers to a method 24 statement in relation to the interface requirements. 25 Q. In any event, the generic method statement which you	Page 76	1 Q. If it didn't, then what should MTR do? 2 A. In my opinion, it should have commented on any aspects 3 of the works requirements which were not covered in the 4 generic statement, and would have said that further 5 details would be required. 6 Q. And not to have accepted it; correct? 7 A. Yes. I'm not in a position to know whether the method 8 statement did or didn't, but my understanding of the 9 requirements would be that if the generic document 10 didn't cover it, then they would have highlighted that 11 it did not meet the requirements at the interface 12 specification, the appendix. But equally it would have 13 depended on what was submitted by Leighton, whether it 14 purported to cover all requirements or whether it was 15 not comprehensive and that further information would be 16 provided. 17 Q. Thank you. Just one final point. Again, I apologise 18 for going backwards. Still on the QSP. I forgot to 19 suggest this to you -- not suggesting -- I forgot to try 20 to probe your views. Do you accept that when one 21 decides whether a coupler is subject to a ductility 22 requirement, one needs to go to the work drawings? 23 A. That's my understanding, yes. 24 Q. For the Commission's reference, that's also Mr Huyghe's 25 evidence and also Mr Wall's evidence. For Mr Huyghe,

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<p>1 that's Day 16, page 115, lines 8 to 15, and for Mr Wall 2 it's Day 17, page 17, lines 17 to 24. So we now have 3 all three experts ad idem, at least in this particular 4 area. 5 Thank you, Mr Rowsell. I have no further questions. 6 WITNESS: Thank you. 7 MR CHANG: Thank you very much. 8 CHAIRMAN: Yes, Mr Clayton. 9 Cross-examination by MR CLAYTON 10 MR CLAYTON: I'm obliged, sir. 11 Good afternoon, Mr Rowsell. 12 A. I'll have to put my glasses on to see that far back. 13 Q. You need binoculars! 14 I'd like to look at a few aspects of your second 15 report with you. Could we go to internal page 8 first, 16 please. This is paragraph 7 of your report, at (b), and 17 your observations; do you see that? It says: 18 "My observations: The as-constructed documents 19 listed in EA appendix K include, at item 5, inspection 20 and testing certificates. This would appear, in my 21 opinion, to include RISC forms which provide a record of 22 contractual inspections and provide the certification 23 required for work to be progressed." 24 Do you see that? 25 A. I do, yes.</p>	<p>1 Now, these certificates always certify something, 2 don't they? 3 A. Yes. 4 Q. And that's why they're called a certificate? 5 A. I think so, yes. 6 Q. They're formal documents, aren't they? 7 A. Yes. 8 Q. They're not issued by site staff, are they? 9 A. I think they could be, if they are certified by someone 10 of an appropriate level as required by the contract. 11 Q. Well, my understanding and my experience is that it is 12 either, for government matters, senior people within the 13 department, or, under the contracts, there are 14 specifically people identified, such as the engineer or, 15 for interim payment certificates, frequently quantity 16 surveyors, who are specifically identified as the 17 appropriate person to deal with it. That's what the 18 certification process normally means, doesn't it? 19 A. The engineer is able to delegate responsibility down 20 throughout the organisation, so there could be people at 21 different levels who are able to certify, depending on 22 what the nature of the certification is. 23 Q. Again, my experience is obviously different than yours. 24 Normally, the engineer can delegate down to 25 an engineer's representative, who is also identified</p>
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<p>1 Q. Now, it's obviously a matter of interpretation of the 2 entrustment agreement, whether RISC forms are 3 certificates as that word is used in the contract, but 4 I would like to ask you a few questions about that 5 proposition. 6 A. Okay. 7 Q. There are two types of certificates generally in the 8 construction industry, aren't there? Firstly, 9 certificates issued under a contract for payment and 10 practical or substantial completion of the works, for 11 example; and secondly certificates issued by government 12 departments certifying that particular areas of work are 13 appropriate for -- are finished and are appropriate, 14 such as in lifts and in escalator certificates; yes? Do 15 you agree with that proposition? Two types? 16 A. In my experience, you get other types of certificate. 17 Q. Such as ...? 18 A. Such as where matters are certified, so inspection 19 certificates wouldn't seem to come under the two 20 categories you've identified. 21 Q. Wouldn't it be an inspection certificate for a lift, 22 an inspection certificate for escalators? 23 A. That's two examples, but there could be certificates for 24 other types of product or works. 25 Q. Okay. I'm quite happy with that answer.</p>	<p>1 under the contract, but not various other people within 2 the organisation. 3 Do we have a different experience there? 4 A. My understanding is that the contract does set out, 5 clearly set out, the authority of the engineer to 6 sub-delegate, and that is acceptable provided that the 7 contractor is notified of the level of authority that 8 different people in the organisation have to certify. 9 Q. Right. Okay. Could we then go to the entrustment 10 agreement, please, G5625, just to see the provisions you 11 are talking about. Just bear with me. I think it's 12 clause 16.5 I'd like to go to first, which is at 5625, 13 at the bottom of the page. That is the provision -- you 14 are talking about appendix K, aren't you, in your 15 report; yes? 16 A. Sorry, which specific part of my report? 17 Q. You talked about certification. You say: 18 "My observations: ... listed in EA appendix K ..." 19 Do you see that? 20 A. I can see it on the screen. 21 Yes, thank you. Yes. 22 Q. So this is the provision that then ties in appendix K, 23 just for your information, just so we can see how it all 24 works. 25 A. Thank you, yes, I follow you.</p>

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<p>1 Q. "Without prejudice to the generality of the obligations 2 of the Corporation under this Clause 16, the Corporation 3 shall, at the relevant tile, submit to Government, for 4 comment, the following documents which are relevant to 5 the general scope of the Shatin to Central Link Project 6 and its service performance when operations commence or 7 the Shatin to Central Link: 8 (A) preliminary and final versions of the documents 9 specified in Appendix K". 10 A. Yes. 11 Q. Then if we could go to appendix K, please, which is at 12 G5698. It says: 13 "The [Contractor] shall submit to Government the 14 following documents by way of as-constructed records". 15 It's subparagraph 5, I think, that you were talking 16 about: 17 "design certificates, submissions to and 18 certificates issued by any relevant authorities (eg FSD, 19 WSD, EMSD), inspection and testing certificates, factory 20 test records, software licence agreements". 21 A. Yes. 22 Q. As I've already suggested to you, a certificate is 23 a formal document issued by a construction professional 24 certifying something. These were documents which show 25 the contractor putting forward an item of work ready for</p>	<p>1 whether a RISC form was an inspection certificate or 2 not, I think it could be clearer. But I'm quite happy 3 to accept that there are different possible 4 interpretations on that wording. 5 Q. Could we then look at the RISC form, please, which is at 6 B3650. 7 Bear with me. I'm afraid I have everything in 8 paper. 9 A. That's one of the problems, yes. 10 I can see it. 11 Q. "Request for inspection/test/survey check form", and 12 it's exhibit 7.3 -- do you -- 13 A. I'll just have to move a bit closer. 14 Yes. Thank you. 15 Q. Okay? 16 A. Yes. Thank you. 17 Q. Now, they are part of the PIMS/PN/11-4, as we can see 18 from the top right-hand corner. Where is there anybody 19 certifying anything on this form, Mr Rowsell? 20 A. Well, at item (4), "To be completed by the contractor", 21 you are setting out "work proposed after approval". So 22 an approval is being given. 23 Then if we can scroll down the form, what you are 24 setting out -- it would be helpful to see the whole form 25 on one page.</p>
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<p>1 inspection so you can move on to the next stage. How 2 does that become a certificate, in your view, 3 Mr Rowsell? 4 A. Yes, I did cover this point in my report for the 5 Original Inquiry as well and suggested that this was 6 an area that could be clearer. So I set out my 7 understanding that that could be interpreted as 8 including the results of inspections on site, so 9 inspections had been undertaken which were certified to 10 show that the contractor could proceed to the next 11 stage, so there was a certification part of the RISC 12 process. So I was just saying there was an element of 13 uncertainty as to whether or not that included RISC 14 certificates, the RISC forms. 15 Q. I would suggest to you that certificates are not 16 permission given by a member of a site staff to move on 17 to the next part of the process. They are formal 18 documents, issued by formal people, either under the 19 contract or by construction professionals in relation to 20 statutory requirements. That's what they're known as in 21 the construction industry, aren't they? 22 A. Well, I don't -- I'm not wishing to argue with you. I'm 23 just saying there is a degree of ambiguity, from my 24 point of view, if that was transferred into the 25 construction contract, whether the contractor would know</p>	<p>1 Q. That's the advantage of having a piece of paper. 2 A. Indeed. 3 Q. Do you want to scroll down to the bottom of the form? 4 CHAIRMAN: Can Mr Rowsell be provided with a paper copy? 5 A. I think I can see the relevant part and that is what 6 I was looking for. What is on the screen now are the 7 results of the inspection/test. So the people 8 undertaking the inspection have to sign to say whether 9 permission is given to carry on with the proposed work 10 or whether permission is not given, whether the works 11 have been completed satisfactorily and approval is given 12 or if the work has not been completed satisfactorily and 13 start again with a new RISC form. 14 MR CLAYTON: But that's not the certification of anything, 15 is it? 16 A. Well, I think it could be interpreted as certifying that 17 the work is acceptable or not. 18 Q. Okay. 19 Could we then look at -- we've looked at the RISC 20 form -- PIMS/PN/2-4, which is at BB9838, please. This 21 is now the archiving. Obviously, when we were looking 22 at the EA, these were documents that had to be handed 23 over to the government at the end of the contract. Do 24 you remember that? 25 A. I do, yes.</p>

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<p>1 Q. This is the archiving of project records, you see at 2 paragraph 1.1: 3 "Project records are created or received from 4 feasibility study to project completion. As these 5 records are required to be saved on the electronic 6 project management system (ePMS) or drawing management 7 system, most of their hard copies are disposed of after 8 the project is completed." 9 Could we then go to the next page just to see what 10 project records are, which is paragraph 3.3, B9839. 11 Sorry, do you have this on ...? 12 A. I don't think what I'm looking at at the moment is what 13 you're referring to. 14 Q. Sorry, BB9839, "Project records": 15 "All information-bearing media generated or received 16 during the planning phase, specification phase, and 17 processes of design ..." 18 So we can see from this definition that the project 19 record is anything that contains information about the 20 project, can't we? 21 A. Yes. 22 Q. And the project records and their retention are dealt 23 with at exhibit 7.3/1 of this document, which is BB9849. 24 Do you have that? 25 A. "Summary of types of project records", yes.</p>	<p>1 document identified certificates, it would appear? 2 A. Correct. 3 Q. Could we go to BB9853, please. This is then the 4 construction management records, and you will see, at 5 11.18, there are inspection certificates specifically 6 identified, and I've already suggested to you that those 7 are certificates of the type -- for lift certificate, 8 for an escalator certificate and the like. But I've 9 mentioned that point already. 10 So 11.18 is "Inspection certificates". Those are to 11 be retained. 12 A. Okay. 13 Q. 11.26 are "Requests for inspection". Isn't that what we 14 are talking about, RISC forms? 15 A. Yes. I think the point I would make is that the form 16 covers two aspects. One is a request for inspection and 17 the second part is recording the results of that 18 inspection, which is why I think there is an element of 19 uncertainty or there could be an element of uncertainty 20 as to whether the RISC form should form part of the 21 as-builts or whether they can just be retained on ePMS. 22 I think my comment was it could be clearer. 23 Q. That's 11.26 and it hasn't a star. Could you then go 24 over -- 25 A. Did you say it has a star? It has no star.</p>
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<p>1 Q. 7.3, "Project records and retention schedule". 2 At the top of the page: 3 "These are the types of project records that should 4 be stored in ePMS in order to provide a reasonable 5 record of the activities during the project cycle from 6 feasibility study to project completion. Most of these 7 hard copies should be destroyed after project 8 completion. Those project records that need to be 9 handed over in hard copies are earmarked below and 10 elaborated in part B retention schedule." 11 If you look over the page, BB9850, at the top, it 12 has "Details of types of project records": 13 "Hard copies are destroyed by prime holders after 14 project completion except those earmarked with [a star] 15 below." 16 Do you see that? 17 A. I do, yes. 18 Q. If we can look down that page, at paragraph 3.2, you see 19 they identify certificates, when certificates are to be 20 produced; do you see that? "Land handover 21 certificates"? 22 A. Yes. 23 Q. If we flick over the page quickly to BB9851, 6.2, 24 partway down the page, "Design, check certificates"; 25 6.2.1, "Design, check certificates", et cetera. So the</p>	<p>1 Q. 11.26 doesn't, 11.25 does. 2 A. Thank you, yes. 3 Q. Could you then go over to BB9854, 11.47. 4 A. Yes. 5 Q. "Concrete structures specific" -- that's what we're 6 talking about here, inspections of concrete structures? 7 A. "Core tests", is that the one? I've got it. 8 Q. 11.47. 9 A. Yes. 10 Q. "Concrete structures specific". 11.47.1, "Hold 11 points/witness points inspection records" -- that's 12 precisely what we are talking about, isn't it? 13 A. Certainly, yes. 14 Q. And it's not to be retained and it's separate from 15 a certificate? 16 A. Yes. I understand that there is the potential for 17 interpreting these things in different ways. I'm just 18 saying that overall, it would help to be slightly 19 clearer in relation to what is specifically required for 20 the RISC forms. 21 Q. It certainly would, but -- I'm not sure that's right. 22 If one looks at this document, it's pretty clear what 23 MTRC is saying, isn't it? That in actual fact 24 inspection certificates are different from RISC forms. 25 RISC forms are documents that are just kept on ePMS.</p>

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<p>1 A. I'm very happy to accept that there is 2 an interpretation -- my feeling is that overall it could 3 be clearer. 4 Q. Anyway, I've put my point to you. 5 A. Indeed, yes. 6 Q. I'm not going to labour it anymore. Right. 7 Then I want to move on to a separate point, which is 8 going back to your report. 9 Could we go to paragraphs 113 to 115 of your second 10 report, please, which start at internal page 54. 11 Could you just quickly read through -- are you 12 familiar with that, or do you want to quickly read 13 through it to remind yourself? 14 A. I think I'm familiar with it. Thank you. 15 Q. Okay. Some of what you say in the paragraphs might be 16 taken as matters of contractual interpretation but there 17 are still some questions I'd like to ask you. 18 A. Okay. 19 Q. You say at paragraph 113 that quality is related to 20 cost. And we're talking in the context here of 21 a contract, the M&V agreement, which has cost programme 22 and public safety, and that's what you're talking about 23 in the first sentence there? 24 A. Right. 25 Q. But the same could be said equally, couldn't it, of</p>	<p>1 you see that? 2 A. Yes. 3 Q. "I also note however, that in paragraph 65 of his 4 witness statement [this is Mr Yueng we are talking 5 about], Mr Yueng referred to a tender for a similar M&V 6 role on the subsequent XRL project, in which the 7 government changed the wording of the role to cover 8 'cost, programme, safety and quality' rather than 'cost, 9 programme and public safety' as applied on the SCL 10 project. This indicates to me that the government may 11 have recognised that construction quality is a necessary 12 part of the M&V role." 13 And that's your view, isn't it, that quality is 14 a necessary part of the M&V role? 15 A. I believe it should be, yes. 16 Q. Now, the XRL project was before and not subsequent to 17 the SCL project? 18 A. Okay. I'm happy to accept that. That was just my 19 understanding when I read the evidence. 20 Q. So government chose to change the wording to delete 21 "quality" from the specific matters identified, and also 22 I think Mr Yueng also speaks about safety became public 23 safety. 24 A. Okay. 25 Q. Right. Now, quality -- and I think you've said this</p>
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<p>1 programme and safety; they are related to cost equally? 2 A. Yes. 3 Q. For instance, if you get programme delays, you have 4 potential for increased costs. If you have public 5 safety issues, a nearby building or road was potentially 6 damaged, you have increased cost? 7 A. Yes. 8 Q. Just about everything in relation to a construction 9 contract -- not just about everything but a lot of 10 things in relation to a construction contract affect the 11 cost, don't they? 12 A. Yes. 13 Q. I mean, just to take other examples, inadequate labour 14 or staffing, problems with design, all those sorts of 15 matters going all the way through the contract would 16 affect cost; that's correct, isn't it? 17 A. That's correct, yes. 18 Q. So, leaving aside contractual interpretation, what one 19 needs as a matter of practicality in a contract is 20 an accurate and complete description of the obligations, 21 isn't it? 22 A. Correct, yes. 23 Q. Could we then turn over the page to your paragraph 115, 24 internal page 55. I'd just like to look at the last two 25 sentences of 115 or the sentence starting "I also" -- do</p>	<p>1 already but I just want to ask you -- is an obvious 2 aspect of construction works, isn't it? 3 A. Yes. 4 Q. It's referred to in all the documents, and so on and so 5 forth. And it will be a matter of choice by an employer 6 if it wished to have and to pay for quality being 7 checked, wouldn't it? 8 A. Indeed, yes. 9 Q. I would then like to go to the first nine lines of your 10 paragraph 115. I hope I have counted correctly: 11 "I also have concern about Pypun's view that 12 construction quality has no linkage to public safety. 13 At paragraph 81 of his witness statement, Mr Yueng 14 states that 'public safety' under the M&V agreement 15 meant safety to the public when the construction works 16 for the project are being carried out, and not quality 17 or integrity of the permanent works constructed. This 18 is not based on a definition in the M&V agreement but is 19 based on the explanation provided on page 4 of the 20 inception report which was produced by Pypun. It 21 appears that this was Pypun's interpretation rather than 22 a definition clearly set out by the government, although 23 they did not appear to disagree with Pypun's view at 24 that time." 25 Now, Mr Yueng dealt with it by reference to the</p>

Page 93	1 inception report. Have you actually read Pypun's 2 opening and closing? 3 A. I have read it. 4 Q. Because we dealt with it there, as a matter of 5 contractual interpretation, public safety. You don't 6 mention it at all. 7 A. No, I accept I don't mention it. It's difficult to 8 mention everything. 9 Q. Quite right, but I just wondered why you mentioned what 10 Mr Yueng said in his witness statement, rather than what 11 actually was Pypun's submission. If you want to go to 12 whether public safety is actually included within its 13 obligations -- or it's just public safety or whether 14 it's something wider than it says it is. 15 A. I think that was my starting, that's when I first -- 16 when I was reading through the evidence, the witness 17 statement was what I read originally so that's when 18 I formulated an opinion, and then when I read other 19 documents, if it was necessary to change my mind, 20 I changed my mind. 21 Q. Obviously you don't mention the matter in our 22 submissions, but leaving that aside, you do say 23 "government ... did not appear to disagree with Pypun's 24 view at that time". 25 The inception report was produced -- and this is on	Page 95	1 A. Okay. I would have read those then, but I didn't 2 instantly -- I'm happy to accept that, yes. 3 Q. Discussions are happening, and this is the evidence, 4 between Pypun and the various aspects of HyD and BD that 5 were working on this with them, on a daily basis. 6 A. Yes. 7 Q. And there is no evidence, is there, that anybody was 8 suggesting -- and I'm looking at public safety now -- 9 during the seven years that this contract has been going 10 on, that there was anything wrong with Pypun's 11 understanding of what "public safety" meant? 12 A. That's my understanding, yes. 13 MR CLAYTON: Thank you very much. 14 Is that a convenient moment? We are slightly early. 15 I'm just moving on to another topic, that's all. 16 CHAIRMAN: Looking at this afternoon and the possibility of 17 completing this afternoon, Mr Clayton ...? 18 MR CLAYTON: Three-quarters of an hour. 19 CHAIRMAN: Then, Mr Khaw? 20 MR KHAW: 10 to 15 minutes. 21 CHAIRMAN: Thank you. Then ...? 22 MR BOULDING: Half an hour, I would think, sir. 23 CHAIRMAN: All right. So we will adjourn then until, say, 24 2.15? 25 MR PENNICOTT: Yes.
Page 94	1 public safety now, we are talking about, what that 2 means -- after the M&V agreement was executed in 2012, 3 wasn't it? 4 A. Yes. 5 Q. However, is there any evidence that you're aware of -- 6 because there's none that I'm aware of -- that 7 government ever disagreed with Pypun's view on public 8 safety prior to the Commission being set up? Is there 9 anything that you're aware of on that? 10 A. No. As I say there, if the government had disagreed, 11 I would have expected them to disagree to the inception 12 report. 13 Q. Yes, because, like all those -- the monitoring, the 14 verification, it was all sent in draft, and then 15 basically government was then to comment on it and then 16 a final version was sent; do you remember that? 17 A. That's my understanding, yes. 18 Q. There has been, hasn't there, monitoring of Pypun's 19 performance under the agreement on a quarterly basis; 20 are you aware of that? 21 A. I saw that was an intended performance monitoring 22 regime, yes. 23 Q. Well, it's more than "intended". I think all the 24 reports are actually attached to Mr Yueng's witness 25 statement. Have you read those?	Page 96	1 CHAIRMAN: 2.15. Thank you. 2 (12.54 pm) 3 (The luncheon adjournment) 4 (2.23 pm) 5 CHAIRMAN: Mr Clayton and the others, my apologies for being 6 a little late. There were a couple of documents that we 7 were just apprised of and we had to have a brief 8 discussion, myself and Prof Hansford, before coming in. 9 So, if we kept you waiting, apologies. 10 MR CLAYTON: Fully understood, sir. 11 Good afternoon, Mr Rowsell. Could we go to 12 paragraph 111 of your second report. I'm going to take 13 it from towards the bottom of the page. This is "The 14 scope of the M&V role": 15 "My concern relates to whether the M&V role was 16 sufficiently comprehensive to provide the government 17 with adequate confidence that the project was being 18 delivered in accordance with the required procedures and 19 standards. I also have concern that the services Pypun 20 delivered during the course of the [project] may have 21 been driven by the resources that were available rather 22 than being based on everything that the government 23 needed." 24 Now, when you say what the government needed, do you 25 mean quality checking, which is something that you think

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<p>1 the government needed and there's a dispute as to 2 whether it's within the contract or not? 3 A. It's what I think the government should have needed, or 4 would ideally require, for a company delivering that 5 service. 6 Q. Right, rather than anything that government actually 7 said at the time that they needed and Pypun didn't 8 provide? 9 A. That's correct, yes. 10 Q. Thank you. 11 So far as what government considered it was 12 obtaining from the work which Pypun did, I think you 13 said this morning that you might have read the 14 performance reports but you weren't precisely sure? 15 A. I think I did read one or two of them but I didn't think 16 they were directly relevant to my instructions which 17 were to report on MTR's performance. 18 Q. Okay. I understand that. But government was not 19 suggesting, was it, that it didn't actually receive from 20 Pypun what it expected to receive during the course of 21 the works for the seven years that the project was in 22 operation? 23 A. That's my understanding. 24 Q. Could I then go to paragraph 113, please, and the last, 25 I think, six lines, if I have counted correctly:</p>	<p>1 Could we go to paragraph 116, please, of your 2 report. You say: 3 "In paragraph 80 of Mr Yueng's witness statement, he 4 states that while Pypun's work was very extensive, it 5 did not (and could not) cover all monitoring and 6 verifying of all works on this very large and complex 7 project. It is necessary however, to have access to 8 sufficient resources and to have flexibility in 9 resources to provide a reasonable degree of confidence 10 that the work is being delivered in line with 11 requirements. I do not know what steps the government 12 took to ensure that Pypun had sufficient resources to 13 undertake the work that could arise from the project. 14 In my opinion, it is a fundamental part of the 15 appointment procedure by an employer to ensure that 16 a service provider has the necessary capacity and 17 capability to deliver the required services. Whilst 18 I accept it is not feasible to verify everything on 19 a project of this scale, it does appear that there are 20 some aspects which may have benefited from more audit 21 and verification. I am concerned that there was a risk 22 that the level of services could in part have been 23 constrained by Pypun's resource capacity although I have 24 not seen any evidence to confirm this was the case." 25 Now, just first of all, I think, in the first part,</p>
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<p>1 "Liability for the cost will depend on the 2 provisions of the contract and any relevant 3 sub-contracts and whether the costs are classified as 4 disallowed costs. Depending on the circumstances, the 5 cost of remedial works may not be class as disallowed 6 [costs] under the target contract and could fall to the 7 government. I note that Pypun's monitoring plan makes 8 no mention of disallowed costs in its monitoring 9 process." 10 I'm not sure I understand what point you're seeking 11 to make, Mr Rowsell, in the last sentence. May I just 12 put it this way and explain it to you: no one asked 13 Pypun's witnesses about disallowed costs. There were 14 only a few target cost contracts, as I understand, where 15 disallowed costs would have been relevant, and I'm told 16 they did monitoring on the basis of the actual 17 contracts. There's no evidence that they didn't 18 consider disallowed costs, is there, in relation to the 19 target cost contract? 20 A. I'm not aware of any. I think I was just commenting on 21 the headings which are in the monitoring plan, and 22 I think I was making the point to show that this is 23 an area in the future which it may be desirable to 24 include in future contracts. 25 Q. Understood. Thank you.</p>	<p>1 you talk about Pypun had sufficient resources to 2 undertake the requirements under the contract. The 3 requirements under the contract didn't require Pypun to 4 verify everything, did they? It was a risk-based 5 approach? 6 A. Indeed, yes. 7 Q. Again, I have to ask you, in relation to the last 8 part -- you again talk about the performance reports 9 here -- but the performance reports frequently do 10 actually say that Pypun had sufficient staff, and 11 I haven't found one that doesn't suggest that they 12 didn't have sufficient staff to actually carry out the 13 works. 14 Do you have any other alternative to that? 15 A. No. What I'm saying is I consider that there are some 16 additional roles that could be performed by an M&V 17 consultant, and in my first report I set out that it 18 could be developed into a full project representative 19 role as based on some examples in the United Kingdom. 20 Q. Okay. So what you're talking about is what you think 21 was actually needed, not what was within this particular 22 contract? 23 A. That's right, and I'm just making the general point 24 that, with a larger role, the government has to be very 25 sure it's an appointment process, is that there's</p>

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<p>1 a flexibility in resource, because in case -- if 2 problems occur under a risk-based approach then more 3 resources will be required to -- 4 Q. Yes, but there's nothing here to suggest -- 5 A. I'm not suggesting that you didn't have the resource, 6 no. 7 Q. Thank you. 8 117 and 118, please, if we could, which is the next 9 page: 10 "My level of concern about resources is raised 11 further because the scope of Pypun's services increased 12 substantially following their initial appointment. As 13 set out in the new paragraph 32 in the corrigendum to 14 his witness statement, Mr Yueng states that 100 15 contracts ... in the verification plan. [They then 16 became] 340 ... 17 In view of this large increase, I would have 18 expected the government to satisfy themselves that Pypun 19 had the necessary resources ..." 20 And we are getting into the same sort of area here. 21 Were you aware that both Mr Leung from government and 22 Mr Yueng from Pypun were asked about this contract 23 increase point? Were you aware of their evidence? 24 A. In Mr Leung's evidence? 25 Q. Yes. Both of them were asked orally about it and</p>	<p>1 statement, Mr Yueng sets out that the Pypun's monitoring 2 plan stated that contract interfaces were a readily 3 identifiable key risk. However, contract interfaces are 4 not included in the strategic risk groups which Mr Yueng 5 lists at paragraph 35 of his witness statement. The 6 list he provides includes 'interfaces with the 7 operational railway' ..." 8 Then I think you repeat that to some degree, don't 9 you, in paragraph 121. Halfway down you say: 10 "Overall, it is not clear to me therefore, whether 11 contract interfaces were considered to be a key 12 strategic risk or not, and what actions Pypun took to 13 monitor them." 14 Do you see that? 15 A. I do, yes. 16 Q. Could we just look at the two different documents that 17 you're referring to in relation to Mr Yueng's statement. 18 I think Mr Yueng's witness statement is at GG1, page 28, 19 paragraph 14, first of all. Thanks. 20 I think this is talking about the monitoring plan, 21 isn't it? 22 A. It is, which is mentioned in paragraph 12, yes. 23 Q. Yes, if you go -- that's the monitoring plan. 24 Then if you go to the other reference you took in 25 his witness statement, which is paragraph 35, which is</p>
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<p>1 Mr Leung basically said, "I think they had sufficient 2 experience to deal with the increased number of 3 contracts", and Mr Yueng's evidence was that they always 4 had sufficient resources? 5 A. I was aware of that. It didn't strike me as a very 6 rigorous assessment of whether the necessary resources 7 had been fully assessed. I recognise the point was 8 raised, but I didn't get -- 9 Q. You mean by the cross-examiner or by Mr Leung? 10 A. I didn't think -- there wasn't a lot of evidence that 11 I had which demonstrated there had been a robust process 12 to assessing that the resource was there and that, if 13 problems occurred, there would be flexibility of 14 resource to cater with further work if that proved to be 15 necessary. 16 Q. I don't think there has been any evidence about that at 17 all, one way or the other, has there? 18 A. No. That's what I think I was saying. 19 Q. Could we then go to the bottom of the page, please, 120: 20 "It appears to me that there was a lack of clarity 21 in relation to the strategic risks identified by Pypun 22 which were used to focus their resources, particularly 23 in relation to interface risks. At paragraph 16 of his 24 witness statement, Mr Yueng sets out that Pypun adopted 25 a risk-based approach to its work. At 14 of his witness</p>	<p>1 at GG1/32, we are now into, I think, if you go back 2 a little bit from this -- could you go back a few 3 paragraphs, please; keep going back, I'm sorry -- we are 4 now into the verification plan I think. Can you verify 5 that or not, or do I -- there's "Verification", that's 6 very helpful, thank you very much, above paragraph 27. 7 If we go on to paragraph 35, I think we are now in 8 the verification plan, aren't we, which are two 9 different documents? 10 A. Yes, two different documents. 11 Q. Right. Could we then look at, first of all, the 12 verification plan, please, which is at K181, it starts. 13 If you look at the bottom right-hand corner of that 14 page, this is a June 2013 document, and I think K192 is 15 the particular paragraph that you're talking about from 16 that plan, where you've got 2.3.3, and it says: 17 "For the main contract works the following is our 18 initial assessment of the likely strategic risk groups". 19 Do you see that? 20 A. Yes. 21 Q. And that's the one that contains the suggestion of 22 interfaces with the operational railway. 23 Now, the monitoring plan, which is the other 24 document you were referring to, which Mr Yueng was 25 talking about in his statement, is at K147. Again, if</p>

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<p>1 you could go down to the bottom right-hand corner of 2 that, you will see that this is a -- this particular 3 version of this document is a considerably later 4 document, isn't it, January 2016? 5 A. Yes. 6 Q. And I think the relevant reference at paragraph 2.2.1 is 7 at K155-K156. If we go over to the next page, please, 8 156, we then see the interface, contract interfaces, as 9 a specific key risk area? 10 A. I do, yes. 11 Q. So, from the initial identification and verification 12 plan, there appears to be a change in the monitoring 13 plan; correct? 14 A. I believe that's right, yes. 15 Q. With contract interfaces identified as a key risk area? 16 A. Yes. 17 Q. Mr Yueng's oral evidence was that Pypun's staff had 18 carried out an exercise to determine which contract 19 interfaces did and which did not pose a key risk. For 20 the reference, that's Day 15, page 10, lines 18 to 25. 21 Were you aware of that evidence? 22 A. Well, do I recall it? I've read the document. 23 Q. This is in oral evidence, sorry. 24 A. Oh, it's in oral? 25 Q. Yes, he said --</p>	<p>1 A. That's it. I clearly, when I wrote this, it wasn't 2 clear to me that interfaces had featured clearly as 3 a key risk, but you have given me some comfort there. 4 Q. Okay. Paragraph 122, please. Just the first sentence: 5 "According to the chronology provided by the 6 government, Pypun became aware of the defective stitch 7 joints in March 2018 and that demolition and replacement 8 works were required." 9 Then if we go over to 123: 10 "At paragraph 90 of his witness statement, Mr Yueng 11 states that prior to about March 2018, Pypun had no role 12 or responsibility to identify, discover or investigate 13 issue 1 being considered as part of the Extended 14 Inquiry. I do not fully agree with that statement 15 because when the problem was discovered, the cause, and 16 hence liability for it, was not known. There was the 17 potential, therefore, for the government to face 18 significant additional costs and also potential delays 19 to the programme." 20 But, Mr Rowsell, you've accepted in paragraph 122 21 that they only became aware of it in March 2018, so why 22 should they have done something before they became aware 23 of it? 24 A. I think the point I'm making is that others became 25 earlier that there were potential defects.</p>
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<p>1 A. Again, I've read the transcripts, yes. 2 Q. -- in oral evidence that Pypun's staff had carried out 3 an exercise to determine which contract interfaces did 4 and which did not pose a risk. 5 A. I don't recall -- I mean, I've read the transcript -- 6 I don't recall that specific reference but I'm happy to 7 accept that. 8 Q. So does that answer your point, that they did carry out 9 that exercise? 10 A. I'm pleased to hear they did. What I would like to 11 bring out, in the M&V role, is that interface risks 12 should always be a key risk, and that the exercise 13 you've just described did happen, to make sure that that 14 is clearly included as part of the services. 15 Q. And no one suggested, have they, that there was any 16 failure by Pypun to properly monitor any risks at the 17 interface between contracts? It's not been something 18 that government's raised during the course of the seven 19 years of this contract? 20 A. Not that I'm aware of, no. 21 Q. Could we then look at -- sorry, let me just ask you this 22 question. I think from what you are saying, you're not 23 suggesting there was any problem; you just want to 24 highlight the fact that this is something that needs to 25 be considered always?</p>	<p>1 Q. So they should have raised it with Pypun; is that -- 2 A. They should have raised this and given Pypun the 3 opportunity to make proposals as to support the 4 investigation of what had gone wrong. 5 Q. Because, when they were aware of it, there was a site 6 inspection, followed by remedial proposal, and the RDO 7 was advised to request MTRCL to deal with costs 8 implications. That's the sort of thing they did when 9 they were aware of it, but obviously they couldn't do 10 that before they were aware of it, could they? 11 A. Yes. I'm making -- I think one of my recommendations is 12 that there are communication channels established to 13 make sure that the M&V consultant is informed of that 14 type of defect. 15 Q. Again, in relation to this aspect, no one has suggested 16 that there was any failure by Pypun over the seven years 17 of operation in relation to this particular aspect, ie 18 not, when they were aware of things, saying what was 19 appropriate to happen? 20 A. Yes. I think I'm just making a point that the role of 21 the M&V consultant should allow them to become aware of 22 those types of problems at a much earlier date; that 23 they are not pushed to one side, so that then they're 24 not informed of that type of issue. 25 Q. So they should be informed of the issue is the point</p>

<p style="text-align: right;">Page 109</p> <p>1 you're making? 2 A. I think so, yes. It is, yes. 3 Q. Paragraph 124: 4 "At paragraphs 62 and 89 of his witness statement, 5 Mr Yueng states that there was no reason why a site 6 inspection or audit of the construction works concerning 7 any stitch joints should have taken place prior to the 8 problems ... As set out above ... Pypun did [not] 9 identify contract interfaces as being a key risk ..." 10 I think we have probably dealt with that, haven't 11 we? There was evidence -- 12 A. I think you put a "not" in there that isn't there. 13 COMMISSIONER HANSFORD: You added a "not". 14 MR CLAYTON: Did I? Where did I add a "not"? 15 COMMISSIONER HANSFORD: You said "Pypun did not identify" 16 MR CLAYTON: Sorry. 17 "... Mr Yueng states that there was no reason why 18 a site inspection ... of ... works concerning ... should 19 have taken place prior to the problems being 20 discovered ... however, Pypun did identify contract ..." 21 I see. Sorry, you're quite right, I did. 22 Again, so far as I'm aware, there is no evidence to 23 suggest site inspections didn't take place at some 24 contract interfaces. Are you aware of any such 25 evidence?</p>	<p style="text-align: right;">Page 111</p> <p>1 only be reacting to issues after they have arisen. This 2 could not have been the intention of government in 3 engaging an M&V consultant." 4 Now, this again is, to a large degree, an issue of 5 contractual interpretation as to what "proactive under 6 the contract" meant, but proactive, and in particular in 7 the context used in the M&V agreement, I would suggest, 8 means proactive in relation to the obligations that 9 Pypun undertook. Would you accept that or not? 10 A. Proactive in relation to the obligations I would accept, 11 yes. 12 Q. Okay. Fine. 13 A. The point -- I think the issue, rather than being -- 14 well, from my point of view, rather than it just being 15 an interpretation, I think it's about managing 16 expectations as well, in that the government -- this is 17 a very large contract. The government is appointing 18 a firm to deliver a big brief, and on top of that it's 19 requiring it to be proactive as well, and I suspect that 20 the government's expectations were quite high. And in 21 reality, to expect a significant amount of proactivity 22 on top of that would have been extremely challenging. 23 So, at the end of paragraph 126, I say: 24 "... the government needs to ensure that 25 expectations set out in briefs for services of this</p>
<p style="text-align: right;">Page 110</p> <p>1 A. I'm not. 2 Q. Because you go on to say, "As set out above" -- and 3 hopefully I'll read this correctly this time -- 4 "however, Pypun did identify contract interfaces as 5 being a key risk and so it would seem reasonable to 6 expect that site inspections would have been undertaken 7 at some contract interfaces." 8 And I think from your answer you are not aware that 9 they weren't? 10 A. No. 11 Q. Okay. Fine. 12 Then 125: 13 "In paragraphs 67 to 70 of his witness statement, 14 Mr Yueng discusses the requirement ... to act 15 proactively and this was also discussed in the Original 16 Inquiry. Mr Yueng states that Pypun was not obliged to 17 go in search of potential issues over and above those 18 that could be identified when it was performing its 19 duties. He also states that in the circumstances of the 20 project, being proactive could only mean the speed in 21 which issues identified by Pypun were followed up. I do 22 not fully agree with these statements as it appears to 23 me that the government was expecting more than this when 24 it said it wanted Pypun to act proactively. On the 25 basis of Pypun's interpretation, they would in reality</p>	<p style="text-align: right;">Page 112</p> <p>1 nature are very clear in terms of what is expected ..." 2 So I think it's interpretation, but equally the 3 government needs to be clear on what is expected. 4 Q. I completely agree with that, but also here there is no 5 suggestion, is there, during the seven years that this 6 contract has operated, that Pypun weren't meeting 7 government's expectations? 8 A. I know it's very difficult because the proactivity would 9 require the government to agree to proposals that Pypun 10 were putting forward. So it may well be proactive but 11 it may not materialise in practice, I think. 12 Q. Firstly, if they were being proactive, just in relation 13 to the obligations, which I think we are probably in 14 agreement is what they had to do, that doesn't 15 necessarily mean that they don't see potential problems, 16 does it? Because, when they are fulfilling their 17 obligations, there might be a potential issue that they 18 see, and they then would have to follow that up? 19 A. I think that's right. What's important is that, at the 20 outset, expectations are aligned between the client and 21 the service provider. 22 Q. In this particular case there is no suggestion, is 23 there, in any of the government reports or anything 24 else, that Pypun weren't meeting the expectations that 25 government had of them?</p>

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<p>1 A. I've not seen anything.</p> <p>2 Q. I think this goes to the final part of 126 and it's just</p> <p>3 really a general proposition. As I've said already,</p> <p>4 Pypun's performance was monitored by professionals</p> <p>5 within government on a quarterly basis over the</p> <p>6 seven-year period. There were also, on the evidence,</p> <p>7 daily exchanges between Pypun and the Buildings</p> <p>8 Department and Highways Department in relation to the</p> <p>9 works they were going to undertake. Would those people</p> <p>10 that monitored Pypun's works during the course of the</p> <p>11 project not be in a better position than you are in</p> <p>12 being able to see and report on any failing in Pypun of</p> <p>13 its duties?</p> <p>14 A. I would certainly hope they were in a better position,</p> <p>15 yes.</p> <p>16 Q. There is nothing, is there, in any of the reports,</p> <p>17 certainly nothing I've seen, which would suggest any</p> <p>18 such failings?</p> <p>19 A. No. I mean, this is an area I've not looked at in great</p> <p>20 detail because it's not directly linked to my main</p> <p>21 instructions.</p> <p>22 MR CLAYTON: So be it. I have no further questions. Thank</p> <p>23 you very much, Mr Rowsell.</p> <p>24 CHAIRMAN: Thank you very much.</p> <p>25 Mr Boulding?</p>	<p>1 may have been some difficulty for the inspectors in</p> <p>2 visually examining steel reinforcement due to the</p> <p>3 constrained nature of the site and the complexity of the</p> <p>4 reinforcement work."</p> <p>5 Pausing here, Mr Rowsell, you recall that over the</p> <p>6 past few days, when I asked Mr Huyghe and Mr Wall</p> <p>7 certain questions, I showed them some photographs in</p> <p>8 relation to -- well, the photographs which revealed</p> <p>9 disconnection of the couplers on both sides of the</p> <p>10 stitch joints. I believe you were also in the hearing</p> <p>11 room when those photographs were shown to them; is that</p> <p>12 correct?</p> <p>13 A. I was, yes.</p> <p>14 Q. In view of those photographs, would you agree that the</p> <p>15 defects that we have seen from those photographs are</p> <p>16 things that should not be too difficult for an engineer</p> <p>17 or a supervisor on site to identify or to spot?</p> <p>18 A. They did look quite blatant defects, yes.</p> <p>19 Q. The next question relates to paragraph -- we are on the</p> <p>20 joint statement still -- paragraph 37 of the joint</p> <p>21 statement, where you talk about the working drawings and</p> <p>22 it says:</p> <p>23 "In relation to the working drawing which set out</p> <p>24 a note constraining the timing of the execution of the</p> <p>25 stitch joint works, we consider that it should have</p>
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<p>1 MR BOULDING: I'm perfectly happy to go now, but I thought</p> <p>2 government were going before me.</p> <p>3 CHAIRMAN: My apologies. You are quite right.</p> <p>4 Mr Khaw?</p> <p>5 Cross-examination by MR KHAW</p> <p>6 MR KHAW: Mr Rowsell, I only have three matters that I wish</p> <p>7 to discuss with you from the government's perspective.</p> <p>8 First of all, if I can just take you to the joint</p> <p>9 statement.</p> <p>10 A. Yes.</p> <p>11 Q. I believe I have asked Mr Wall the same question.</p> <p>12 I just would like to seek your views on this.</p> <p>13 Paragraph 26, and it says:</p> <p>14 "Despite inspections apparently having been carried</p> <p>15 out, we agree that the procedures were not effective in</p> <p>16 identifying Leighton's steel reinforcement installation</p> <p>17 problems subsequently discovered at the stitch joints in</p> <p>18 the NAT. We consider that likely contributory causes</p> <p>19 for the defects in the steel reinforcement fixing</p> <p>20 included ..."</p> <p>21 Then (a), it is stated:</p> <p>22 "In practice, the reinforcement was inspected by</p> <p>23 Leighton's engineers and MTRCL's inspection staff during</p> <p>24 routine and informal inspections. We agree that this is</p> <p>25 a contractual requirement ... We recognise that there</p>	<p>1 included engineering criteria setting out how it would</p> <p>2 be established that it was safe for the construction</p> <p>3 work to be carried out. This would then have allowed</p> <p>4 the criteria to be monitored and discussed at the</p> <p>5 regular interface meetings. We accept however, that</p> <p>6 there is no suggestion that the timing of the interface</p> <p>7 work was not carried out as required. We note that the</p> <p>8 drawing included in the evidence before the Extended</p> <p>9 Inquiry is marked up as being produced for BD submission</p> <p>10 purposes. We agree that this provided BD with the</p> <p>11 opportunity to comment on the potential inadequacies of</p> <p>12 the note setting out the constraint on the timing of the</p> <p>13 work but that it appears that no comment was made."</p> <p>14 Now, if I can just very briefly refer you to one of</p> <p>15 the drawings which would show the note that you have</p> <p>16 referred to. If I can take you to DD7/10393.</p> <p>17 If we can blow up the top-right corner, which will</p> <p>18 provide us with the notes; can you see that, Mr Rowsell?</p> <p>19 A. I can, thank you.</p> <p>20 COMMISSIONER HANSFORD: Slightly bigger.</p> <p>21 MR KHAW: Yes, maybe a bit bigger.</p> <p>22 COMMISSIONER HANSFORD: That's it. Thank you.</p> <p>23 MR KHAW: Thank you.</p> <p>24 The first point may not be so relevant for present</p> <p>25 purposes. The second point is:</p>

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1 "The stitch joint shall be cast as late as possible
2 in the construction sequence, and [preferably] after
3 groundwater recharge, to minimise the amount of
4 differential movement after casting, casting of the
5 stitch joint shall not be carried out until after
6 completion of backfilling."
7 Do you see that?
8 A. Yes, I do.
9 Q. I take it that first of all this timing of the works for
10 the stitch joint, that apparently was fixed by the
11 designer, ie Atkins in this case. Is it not the case?
12 A. It doesn't seem to be very clearly fixed.
13 Q. Right. Now, if we can just scroll down a little bit.
14 This is a drawing, I believe, prepared by --
15 A. If your point was "was it by Atkins" --
16 Q. Yes.
17 A. -- yes, sorry, I agree it was by Atkins.
18 Q. So this timing regarding the sequence of works to be
19 carried out for the stitch joint, that presumably had
20 been fixed by Atkins, according to these notes?
21 A. Yes, that was developed by Atkins, yes.
22 Q. And the wording of the note seems to suggest that the
23 exact timing is not too critical. Would that be
24 correct?
25 A. Well, the difficulty we had with the wording was "be

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1 cast as late as possible in the construction sequence",
2 so that's -- how late is acceptable? And "to minimise
3 the amount of differential movement" -- again, you would
4 have expected a maximum amount of differential movement
5 maximum allowable amount, to have been specified.
6 Q. Right, yes. So, with this timing or with this sequence
7 set out in the notes, would you agree that what the BD
8 could have commented on this issue of timing would be
9 rather limited; would you agree?
10 A. Yes. I think we felt -- the joint experts just felt
11 that, as it was submitted to BD, they may have noted
12 that that note was not very precise and open to
13 interpretation. It's not a major issue, I don't think,
14 but they could have had the opportunity to comment that
15 it could have been more precisely divined with some
16 engineering criteria to support it.
17 Q. I see. So what you meant in the joint statement was
18 that further clarification could have been sought in
19 relation to the wording stated in the notes?
20 A. Indeed. We weren't seeking to transfer responsibility,
21 I don't think. We were just --
22 Q. Thank you. In any event, I believe there is no issue
23 that the timing of the interface works in fact was
24 carried out accordingly, according to the requirements?
25 A. Yes. We say that in the note, in the joint note, yes.

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1 Q. Thank you.
2 Finally, if I can take you to your own report,
3 paragraph 99. I believe you have given some comments on
4 whether the two documents, namely CS2:1995 and PNAP-45,
5 are fully aligned. I think you have given some comments
6 on --
7 A. I did, yes.
8 Q. In fact, I don't wish to further discuss this point with
9 you, save and except that I believe you agree that the
10 views that you have stated there in paragraph 99 is
11 largely a matter of interpretation of the two documents?
12 A. 99 is more about the lack of a definition of "batches".
13 Q. Yes.
14 A. The misalignment of the two documents is somewhere else,
15 I think.
16 Q. Right. The misalignment of the two documents would be
17 based on your understanding and construction of the
18 provision of the two documents; right?
19 A. Yes, but 99 was just identifying that in CS2:1995 there
20 was no definition of "batch", and in the revised
21 document a definition was introduced which, if it had
22 been used, should, in my view, have led to a reduction
23 in the number of tests that would have been required.
24 MR KHAW: In that case, I believe I can leave that for
25 submissions. I have no further questions. Thank you.

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1 WITNESS: Thank you.
2 Cross-examination by MR BOULDING
3 MR BOULDING: Good afternoon, Mr Rowsell.
4 A. Good afternoon, Mr Boulding.
5 Q. I'm acting for MTR. I had quite a few questions for you
6 but, in the light of the discussions you've had with my
7 learned friends, I think I only need to go to a couple
8 of matters with you.
9 First of all, I would invite your attention to
10 paragraph 55 of your report. That's in ER1, tab 1,
11 I think.
12 A. Yes. Thank you.
13 Q. Here you tell us, do you not, that the lack of RISC
14 forms was of little consequence if the steel fixing work
15 and the coupler connections had been undertaken properly
16 in the first place; correct?
17 A. Correct.
18 Q. As I understand it, the procedure was that Leighton had
19 to offer up the steel fixing works and coupler
20 connections for inspection in the first place, so the
21 MTR inspectors can inspect; is that correct?
22 A. Yes.
23 Q. One or two of my learned friends have referred to the
24 photographs that I discussed with one or two of the
25 other witnesses. If you could go to DD15341, and it's

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1 the photograph in the top right-hand corner -- there we
 2 can see, can we not, rebar which has not been connected
 3 to a coupler; is that what that shows?
 4 A. That appears to be the case, yes.
 5 Q. And similarly, if we looked at the photograph in the
 6 bottom right-hand corner, that's another example of the
 7 rebar not being connected to the coupler; correct?
 8 A. Yes.
 9 Q. Then if we were to go to DD15342, and if you look at --
 10 yes, that will do for my purposes, the photograph in the
 11 bottom right-hand corner -- there am I right in thinking
 12 that not only is the rebar not connected to the
 13 couplers, but it's also offset; would that be right?
 14 A. It is, yes.
 15 Q. If we were to go to DD15343, and it's the bottom
 16 right-hand photograph -- thank you -- am I right in
 17 thinking that there we see a piece of rebar which is not
 18 connected to anything?
 19 A. Yes. I'm struggling to understand that photograph.
 20 Q. I think there was a suggestion that it might have been
 21 a piece of cut rebar but I don't know whether you can
 22 help me on that.
 23 A. It doesn't look right, anyway.
 24 Q. It doesn't look right! And of course these are all
 25 photographs of the defective stitch joints; you know

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1 that, Mr Rowsell, don't you?
 2 A. I do, yes.
 3 Q. Would I be right in thinking that you would have
 4 expected Leighton's field inspectors to have picked up
 5 those sort of defects as part of their supervisory
 6 duties?
 7 A. I would, yes.
 8 Q. Would it also be right, from a project management
 9 perspective, that such works should not have been
 10 offered up to MTR for inspection in the first place,
 11 assuming they were, as they were obviously defective;
 12 they were never going to pass the hold-point inspection,
 13 were they?
 14 A. Yes, as I pointed out earlier, the RISC form requires it
 15 to be signed to the effect that the works are in
 16 compliance with the contract.
 17 Q. Thank you.
 18 Then going on to paragraph 57 of your report, and
 19 here you express a concern -- this is on internal
 20 page 32 -- "It does concern me that not all of the
 21 inspection teams had access to the most up-to-date
 22 drawings." Do you see that?
 23 A. That's correct, yes.
 24 Q. I actually feature in your report --
 25 A. Apologies for that.

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1 Q. -- because it stems from something I said in opening;
 2 correct?
 3 A. It seemed one of the better references to include!
 4 Q. If we just look at what I said. If we go to the
 5 transcript for Day 2 at page 63, and if we look at
 6 lines 6 to 11, this is what you had in mind, I believe,
 7 Mr Rowsell:
 8 "The MTR construction engineers, and they will tell
 9 you this, were typically responsible for inspecting the
 10 rebar fixing works, and the reason for this is that they
 11 had the most up-to-date working drawings and the
 12 relevant design amendment sheets and the RFI responses."
 13 As I understand it, you conclude from that that not
 14 all of the inspection teams had access to the most
 15 up-to-date drawings; is that correct?
 16 A. Yes. There were also witnesses who said that they
 17 weren't able to carry out inspections because they
 18 didn't have access to drawings, so --
 19 Q. I'm going to come to a little bit of evidence, but it's
 20 obviously right, is it not, that the passage to which
 21 you refer does not say that nobody else had the most
 22 up-to-date working drawings and the relevant design
 23 amendment sheets and the RFI responses? It certainly
 24 doesn't say that, doesn't it?
 25 A. It says the MTR construction engineers were typically

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1 responsible, because they had access to the up-to-date
 2 drawings. If they all had up-to-date drawings then I'm
 3 not sure why only they would have been responsible.
 4 Q. Well, have you read the evidence from MTR, for example
 5 MTR's Mr Sebastian Kong?
 6 A. I will have read it. I can't recall all that it said,
 7 I'm afraid.
 8 Q. Let me just see if I can stimulate your recollection.
 9 If you would be kind enough to go to BB5242.
 10 There do you see the first page of
 11 Mr Sebastian Kong's statement?
 12 A. Yes.
 13 Q. If we look at the statement, he tells us, in
 14 paragraph 3, what he did, and looking at 3(b):
 15 "For the period from January 2015 to July 2015,
 16 I worked under Mr Joe Tsang Wing Wai", who was a SConE;
 17 and then over the page he tells us that he then worked
 18 for a Ben Chan, a ConE I, mainly at the HHS; do you see
 19 that?
 20 A. Yes.
 21 Q. Then if you would be kind enough to go to page BB5244,
 22 and in paragraph 8:
 23 "From January 2015 to July 2015, I worked under
 24 Mr Joe Tsang and Mr Ben Chan" -- we've read that once
 25 already -- "on contract 1112. My primary responsibility

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<p>1 was to assist Mr Ben Chan, including by conducting rebar 2 fixing hold-point inspections at the accommodation 3 blocks at the HHS. I also conducted several rebar 4 fixing hold-point inspections at the track slab and 5 underpasses at the HHS." 6 Do you remember reading that before? 7 A. I do, yes. 8 Q. Then paragraph 9: 9 "At the beginning of my posting, Mr Ben Chan took me 10 with him during his: (1) routine site walks [but more 11 importantly for present purposes] ... (2) rebar fixing 12 hold-point inspections. By way of explanation as to 13 what these walks and inspections involved I say as 14 follows". 15 Then (a) does not seem relevant for present 16 purposes, but look at (b): 17 "The rebar fixing hold-point inspections were 18 conducted as follows: 19 (i) Before we went on site to carry out 20 an inspection, we had to make sure that we had the most 21 up-to-date working drawings (together with any relevant 22 design amendment sheets and/or responses to requests for 23 information for the relevant works to be inspected, to 24 which we had electronic access through the ePMS system." 25 That's the electronic project management system,</p>	<p>1 A. Yes. It's whether the latest drawings are loaded on to 2 the ePMS at the time the inspections were being 3 undertaken. 4 Q. That's right, and presumably you've had an opportunity 5 to look at the relevant provisions of the contract 6 documents dealing with this ePMS system, have you? 7 A. The contract -- what, the specification? 8 Q. The PIMS. You've looked at PIMS? 9 A. I've looked at a lot of parts of PIMS. Which particular 10 bit? 11 Q. Let's have a look at a document. Let's be specific. Go 12 to bundle B, page 1058, please. Here, we've got the 13 project integrated management system requirements; do 14 you see that? 15 A. I do, yes. 16 Q. Presumably, you've had an opportunity to look at this 17 before? 18 A. I'm just looking for the specific title of the top of 19 the document. "System requirements". 20 Q. Are you still with me? 21 A. I am, yes. 22 Q. Splendid. 23 Then if we could go to page B1586, do you see the 24 heading, 5.4, "Drawing management"? 25 A. I do.</p>
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<p>1 isn't it, Mr Rowsell? 2 A. It is, yes. 3 Q. And: 4 "We took those working drawings (together with any 5 relevant DAmS and/or RFI responses) with us when we 6 conducted inspections. 7 (ii) Then, at the site, we checked the diameter, 8 spacing and layering of the rebars being fixed, and the 9 arrangement of starter bars (if any) and shear links (if 10 any), against the drawings. We also looked at the 11 lapping of the rebars and checked whether the lap length 12 was sufficient. We had to satisfy ourselves that the 13 works were compliant with the working drawings." 14 Now, evidence is for the learned Commissioners, but 15 assuming they accept that evidence, I assume, from 16 a project management perspective, you would agree with 17 me that this is exactly what people inspecting the rebar 18 should be doing? 19 A. They should be doing, but there was some concern by some 20 individuals that they may not have had immediate access 21 to the latest working drawings. 22 Q. I'm going to come to that. 23 As you've seen, Mr Kong says here that he and his 24 fellow workers had electronic access through the ePMS 25 system; correct?</p>	<p>1 Q. And, under 5.4.1: 2 "The corporation maintains an electronics project 3 management system (ePMS) with project management 4 functions which is to be used by the consultants, 5 contractors and [I emphasise] all staff involved in 6 projects managed by Projects Division for capturing, 7 sharing, storing, controlling, managing and archiving of 8 incoming and outgoing project documents throughout the 9 project life cycle. Handling of drawings is detailed in 10 practice note PIMS/PN/09-5 'Production and management of 11 drawings'. 12 Just to pick that document up, if you would be kind 13 enough to go to bundle B, page 26469 -- yes, that's the 14 document -- do you see the reference in the top 15 right-hand corner? 16 A. I do, thank you. 17 Q. Splendid. 18 Then if we look at paragraph 1, "Purpose", 1.1: 19 "This Practice Note defines the process for 20 prosecution, reviewing, approving and issuing drawings 21 for projects." 22 Then 2, "Scope", 2.1: 23 "This Practice Note applies to drawings to be 24 produced for projects at all stages by consultants, 25 contractors and in-house design teams."</p>

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<p>1 Then going, if you would, to bundle B, page 26470, 2 we are in the definitions section and do you see 3 clause 3.4 there, "Drawing holder", abbreviated to "DH"? 4 A. I do, yes. 5 Q. And he is: 6 "A member of a Project Team delegated by the 7 Construction Manager to ensure that the 'controlled' 8 set(s) of drawings are properly maintained throughout 9 the project stages." 10 Then if you would be kind enough to go on to B26471, 11 and there I invite your attention, please, to 12 paragraph 5.1.5, and do you see it begins, "The DH"? 13 A. Yes. 14 Q. And we know, don't we, because we have looked at the 15 definition section, that "DH" stands for drawing holder. 16 So it states: 17 "The Drawing Holder shall ensure the most current 18 set of 'controlled' set(s) of drawings (eg 19 Corporation's drawings issued to Contractors or working 20 drawings from Contractors which can be tracked through 21 ePMS) are maintained and made available to the project 22 team for day-to-day coordination and reference purpose 23 throughout the project stages. The 'controlled' set(s) 24 of drawings shall be properly filed in packages/volumes 25 with obsolete drawings clearly marked, identified and</p>	<p>1 A. But the process is a good one. 2 Q. The process is a good one and we've seen what Mr Kong 3 says about it. Thank you. 4 So if I can move on -- now I'd like to go to 5 paragraph 75 of your witness statement, if I may. Here 6 you are dealing, are you not, with a lack of RISC forms 7 and ineffective inspections; do you see that? 8 A. I am, yes. 9 Q. I think the complaint, if we look at the last sentence, 10 is that: 11 "If these PIMS requirements had been followed then 12 there would have been a safety net to the lack of RISC 13 forms and replacement records could have been 14 established." 15 It's that particular matter I'd like to discuss with 16 you, if I may, Mr Rowsell. 17 A. Okay. 18 Q. Was there in fact a safety net? Presumably, you've 19 heard of an organisation called WSP, have you? 20 A. I have. 21 Q. I assume you'd agree that they are an internationally 22 renowned independent audit consultant? 23 A. Yes. 24 Q. You will know, will you not, that WSP were engaged by 25 MTR to undertake an audit of the EWL station and</p>
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<p>1 filed separately to prevent unintended use." 2 From a project management perspective, I assume that 3 that's something that you would agree is a good way of 4 controlling documents, in particular drawings? 5 A. It's an excellent process. Just got to make sure it's 6 implemented in practice. 7 Q. Well, if this was implemented in practice -- and we've 8 seen what Mr Kong said about that -- it would follow, 9 would it not, that all of MTR's site staff, from both 10 the construction engineering team and the site 11 inspectorate team, in fact had access to the available 12 latest working drawings through this ePMS; correct? 13 A. Yes. I'm also minded that Dr Peter Ewen gave evidence 14 that MTR were putting in place improvements to the 15 drawings system in order to avoid the risk that people 16 did not have access to all the latest drawings. 17 Q. I understand that, and we've had a lot of evidence from 18 very experienced gentlemen like you to the effect that 19 there's always scope for improvement. That's right, 20 isn't it? 21 A. Indeed, yes. I'm not criticising the process. I'm just 22 pointing out that there were people on site, whether 23 they were right or wrong, but they were concerned that 24 they did not have access to -- 25 Q. But anyway --</p>	<p>1 structures at the HUH, including the D-walls, NAT and 2 the Hung Hom Sidings, to check that the works were 3 properly supervised and documented; you know that, don't 4 you? 5 A. I'm aware of that, yes. 6 Q. You also know that WSP focused on checking and auditing 7 the RISC documentation for the two essential hold 8 points, which were the rebar fixing and the pre-pour 9 checks; that's what they focused on? 10 A. Yes. 11 Q. Thank you. And you'll know, won't you, that there was 12 what's called a phase 1 analysis and a phase 2 analysis? 13 A. Yes. 14 Q. And the phase 1 analysis involved identifying RISC forms 15 which were not presented for audit and to review any 16 inconsistencies in the RISC forms; correct? 17 A. I believe that's the case, yes. 18 Q. It was the function of this phase 1 analysis to address 19 the necessary records from the perspectives of 20 completeness, relevance and authenticity; correct? 21 A. Yes. 22 Q. Moving on to the phase 2 analysis, the objective here 23 was to evaluate supplementary information and 24 information for those RISC forms which had not been 25 presented and those RISC forms with significant</p>

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<p>1 inconsistencies, to determine whether there was 2 sufficient and satisfactory evidence of site supervision 3 of the hold points; correct? 4 A. Yes. 5 Q. As Mr Huyghe has told us in his paragraph 52 -- I don't 6 think there's any need to turn it up -- all three 7 reports, the one for the NAT, the SAT and the HHS, 8 followed the same methodology; that's correct, isn't it? 9 A. I believe so, yes. 10 Q. Now, moving first to NAT, I think that we can pick that 11 up in BB11/7625. There you see the first page. 12 Presumably, these are documents you've had 13 an opportunity to familiarise yourself with, Mr Rowsell? 14 A. I've read them, yes. 15 Q. Splendid. Then if we go on to page 7633, do you there 16 see in the top table what's referred to as the phase 2 17 check, the phase we just discussed a few moments ago? 18 A. I do, yes. 19 Q. We can see from the table, can we not, that the 20 supplementary materials that WSP assessed comprised in 21 this instance, photographs, site diaries and pile 22 records with MTR signatures of acceptance. Is that the 23 way you understand it? 24 A. I see that, yes. 25 Q. Thank you.</p>	<p>1 "Thus, following the phase 1 RISC form count and 2 phase 2 work reviewing supporting information, the WSP 3 audit found that for the essential inspection hold 4 points for key structural elements for HUH North 5 Approach Tunnel construction works, 149 [out of] 155 or 6 96.1 per cent could be evidenced from the available RISC 7 forms or phase 2 check on supplementary/supporting 8 information in the form of site diary entries and 9 photographs provided by the CM team." 10 Do you see that? 11 A. I do, yes. 12 Q. Then just very quickly seeing what happened on the SAT, 13 because as we've agreed the same methodology was used, 14 if you would be kind enough to go to BB13/9216 -- yes, 15 that's the one -- and do you see the last paragraph on 16 that page, in very similar terms to the paragraph we've 17 looked at in the NAT report: 18 "Thus, following the phase 1 RISC form count and 19 phase 2 work reviewing supporting information, the WSP 20 audit found that for the essential inspection hold 21 points for key structural elements for ... South 22 Approach Tunnel construction works, 102 [out of] 102 23 (100 per cent) could be evidenced from the available 24 RISC forms or phase 2 check on supplementary/supporting 25 information in the form of site diary entries and</p>
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<p>1 So far as the assessment was concerned, this was 2 assessed, we see once again from the little table, do we 3 not, using what's called a matrix and by the exercise of 4 engineering judgment; right? 5 A. Yes. 6 Q. Then if we look over the page, I think BB7634, at the 7 top of the page we can see, can we not, that: 8 "From the evaluation criteria matrix example given 9 in figure 10, it was anticipated that supplementary 10 material may include site photographs, site diary 11 extracts as well as other possible supporting material." 12 And we discussed that. 13 "After evaluation by the WSP audit team, the 14 material was either deemed sufficient to evidence that 15 site supervision of the element and hold point took 16 place such that it could be accepted in lieu of the RISC 17 form not presented for audit, or deemed insufficient." 18 So that's telling us what this internationally 19 renowned firm did; that's their approach, correct? 20 A. It's their approach, yes. 21 Q. Then, looking at what their findings were, if you would 22 be kind enough to go on to page -- well, I think 7646 is 23 as good as any, because here we've got the summary. 24 I don't want to read it all but it's the penultimate 25 paragraph:</p>	<p>1 photographs provided by the construction management 2 team." 3 I don't suppose you've got any reason to doubt that 4 conclusion which appears once again at BB9218? 5 A. The point I was making -- we were talking about a safety 6 net. I mean, a safety net to me would be something 7 which would be much easier to retrieve and wouldn't 8 require the appointment of a separate consultant to go 9 in and do detailed analysis of lots of different aspects 10 of records in order to reach that conclusion. You know, 11 that's taken quite some time for WSP to undertake that 12 work, it's been done at some significant cost, whereas 13 my comments in relation of general site supervision and 14 record-keeping were that I've not seen the evidence that 15 individuals kept daily site diaries -- I believe there 16 was a site diary; I haven't seen evidence that 17 individuals religiously filled in their diaries as is 18 set out in the Code of Practice for Site Supervision, 19 and some of -- when you are relying on photographs and 20 things, that doesn't always give you the detail in terms 21 of who it was that undertook the inspections. It 22 doesn't necessarily tell you that works were inspected 23 against the right drawings. 24 So I'm not doubting what WSP have done and I've 25 reached the conclusion that there is enough evidence</p>

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1 there to demonstrate that inspections were carried out,
 2 but to me it's not a very satisfactory safety net to
 3 have in place if the RISC procedures broke down. There
 4 should have been more records which could easily have
 5 been used to complete the records that WSP were asked to
 6 investigate.
 7 Q. Well, you might not like it, but you presumably would
 8 accept, and you have used the term yourself, that there
 9 was in fact a safety net, because using the information
 10 that WSP refer to, site diaries, photographs, signed-off
 11 pile records and the like, they have managed to come to
 12 the conclusion that the vast majority of the hold-point
 13 inspections took place. And against that background
 14 I do suggest to you that it would not be right to say
 15 that there's no safety net at all, Mr Rowsell.
 16 A. No. I'm not saying no safety net at all. This section
 17 is on general site supervision and record-keeping, which
 18 I commented on in my first report, and there I have said
 19 that it's important that individual responsibilities for
 20 record-keeping should be more clearly set out -- you
 21 know, should there be an individual daily site diary or
 22 is there just one diary which the whole team fill in?
 23 My view is that the Code of Practice for Site
 24 Supervision does refer to individual site diaries, but
 25 I'm not sure that that was fully implemented.

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1 Q. So do I understand your evidence -- sorry, I didn't want
 2 to interrupt you.
 3 A. I think the point for mentioning was, for covering this,
 4 was that I felt it would be desirable for PIMS to set
 5 out more clearly what individual records the individual
 6 site team should be keeping in order to provide that
 7 safety net, and as it happens I think you are pointing
 8 out there was just about enough there to allow WSP to
 9 reach that conclusion, and the group of joint experts
 10 have agreed with that --
 11 Q. And in that context --
 12 A. -- that it perhaps could have been easier.
 13 Sorry, I'm interrupting you.
 14 Q. No, we want to hear everything you have to say,
 15 Mr Rowsell. But I have to suggest to you once again
 16 that your real complaint is as to the nature of the
 17 safety net. You'd' accept there was a safety net but
 18 you would prefer the safety net to have been managed,
 19 recorded perhaps in a different way; is that correct?
 20 A. Yes. I'm sure there's more efficient ways of doing it
 21 than the separate appointment of another firm of
 22 consultants.
 23 MR BOULDING: Excuse me.
 24 Thank you, Mr Rowsell. Sorry for that.
 25 WITNESS: No problem.

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1 MR BOULDING: I have no further questions.
 2 MR PENNICOTT: Sir, I just have three or four short points,
 3 if I can just press on.
 4 CHAIRMAN: Yes, certainly.
 5 Further examination by MR PENNICOTT
 6 MR PENNICOTT: Mr Rowsell, just a couple of points to pick
 7 up with you from some of the questions you have been
 8 asked by my learned friends.
 9 First of all, can I ask you to go to paragraph 37 of
 10 your report. It's on internal page -- it starts at
 11 page 22.
 12 A. Yes.
 13 Q. But it's page 23 I want to look at.
 14 A. Yes.
 15 Q. You will recall that Mr Chang took you to a number of
 16 the subparagraphs that are listed there. Do you see
 17 that?
 18 A. I do.
 19 Q. In particular, he took you to subparagraph (f), which
 20 says that one of the matters which may have contributed
 21 to the departure from the formal procedure may have
 22 included, (f), "a mistaken belief that the alternative
 23 approach was acceptable as it supported the contract
 24 partnering principles".
 25 Do you remember being asked about that?

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1 A. I do.
 2 Q. And you clarified, I think, in your answers, that you
 3 were referring there to MTR inspectors; is that right?
 4 A. Yes.
 5 Q. Indeed, if one looks down at paragraph 39 of your
 6 report, you pick up this particular point, where you
 7 say:
 8 "There was a suggestion that the unapproved and
 9 non-compliant approach to inspections was considered
 10 acceptable by members of MTRCL's inspection teams
 11 because it showed a partnering relationship to working
 12 with the contractor."
 13 Do you see that?
 14 A. I do.
 15 Q. Then you give a cross-reference to the witness statement
 16 of Chris Chan from the MTR; do you see that?
 17 A. I do, yes.
 18 Q. Could we have a quick look at that. It's BB1, page 115,
 19 and it's paragraph 20. Is this the passage, Mr Rowsell,
 20 that you are referring to?
 21 "To this extent, there was more of a partnering
 22 relationship, rather than an employer-contractor
 23 relationship between MTR and Leighton. At times,
 24 Leighton would subsequently furnish the RISC forms but
 25 as time went by it progressively failed to do so and the

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1 number of outstanding RISC forms grew."
2 Is that the passage you had in mind when you were --
3 A. It is, yes.
4 Q. Thank you very much.
5 Secondly, Mr Rowsell, on a number of occasions
6 you've made reference to the RISC forms and that part of
7 the RISC forms that needed to be signed by Leighton
8 before they submitted it to MTR, and you've referred to
9 some wording on the form.
10 A. Yes.
11 Q. Could we just look at one of the RISC forms, to make
12 sure that we all understanding the wording that you're
13 referring to. Just at random, could we have BB4/2238.
14 That should hopefully be a RISC form, a filled-in one as
15 opposed to a blank one.
16 If we could blow up the top half -- that's it,
17 perfect -- and, Mr Rowsell, can you just indicate, if
18 we've got the right part of the document, the words that
19 you had in mind and you've referred to a couple of times
20 during the course of your evidence?
21 A. Yes. You've got the first four lines numbered (1), (2),
22 (3) and (4), and then it's the wording in the section
23 below that, which says:
24 "I confirm that the works described in (2) above
25 will be ready for inspection/survey check on [date] ...

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1 and that it will have been checked by me for compliance
2 with the contract prior to your inspection/survey
3 check."
4 Q. Right. So when you were having the discussion I think
5 with Mr Chang and Prof Hansford and the Chairman this
6 morning, this was the part of the form that you had in
7 mind when you were talking about supervisory functions?
8 A. Yes, that it's been checked by that person for
9 compliance prior to inspection, yes.
10 Q. Yes. Okay.
11 Thirdly, Mr Rowsell, you were asked some questions
12 by Mr Clayton about, if you like, the status of the RISC
13 form, and he took you to some of the archiving of
14 documents sections in the PIMS; do you remember that?
15 A. I do, yes.
16 Q. In particular, he showed you the schedules where, at
17 item 11.18, there was inspection certificates. One of
18 the other items was request for inspection, and one of
19 the other items, I think 11.47, was in the context of
20 concrete structures, hold-point inspections. Do you
21 remember all of that?
22 A. I do.
23 Q. And you mentioned during the course of the exchanges
24 with Mr Clayton that this point had arisen in the first
25 part of the Inquiry, and that you had made

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1 a recommendation in relation to this particular point.
2 Do you remember that?
3 A. I believe I had, yes.
4 Q. Indeed, if we go to the interim report, annexure F,
5 right towards the back -- it's page F-5, if it helps,
6 and it's number 23; thank you, if we could blow that
7 up -- and this is your recommendations that were all
8 accepted by the Commission in the interim report. What
9 it says there is:
10 "Review the requirements for formally defined hold
11 points in relation to the contract provisions for not
12 covering up work without inspection. Clarify whether
13 inspection certificates apply to both hold points and
14 pre-covering-up inspections. In the evidence given
15 before the Commission, there seems to be confusion and
16 misunderstanding over the requirements to keep
17 contemporaneous inspection records and RISC forms."
18 Mr Rowsell, do you stand by that recommendation?
19 A. I do.
20 Q. Is there anything that you've heard about/seen in the
21 evidence in the second part of the Inquiry or the
22 extended part of the Inquiry that in any way requires
23 you to alter that recommendation?
24 A. I think it's important that when the requirements for
25 record-keeping are spelled out that, you know, it's

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1 clear what ultimately is going to be required by
2 government in terms of records being retained as part of
3 the as-builts and what records are going to be retained
4 as part of ePMS. At the moment, I think the wording
5 allows scope for misinterpretation. So I stand by it,
6 yes.
7 Q. All right.
8 Then, finally, could I ask you, please, to look at
9 paragraph 57 of your report, and a point that arises out
10 of the questions put to you by Mr Boulding. The issue
11 that he asked you some questions about and showed you
12 some evidence about was the topic -- the topic was
13 whether or not all of MTR's personnel had access to the
14 up-to-date drawings. Do you remember that topic?
15 A. I do, yes.
16 Q. And you mentioned, in answer to Mr Boulding's questions,
17 that you had seen some witness evidence which suggested
18 to you that the inspectors at least had not at all times
19 had the up-to-date drawings; do you remember that?
20 A. I do, yes.
21 Q. Could we look, please, at BB1, page 121. This is the
22 witness statement of Tony Tang, who we can see from the
23 first paragraph is an inspector of works of MTR; do you
24 see that?
25 A. I do, yes.

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1 Q. Then if we could go, please, to paragraph 34, what
2 Mr Tang says there is:
3 "Unlike ConEs, as IOW, I did not have the most
4 up-to-date drawings for the 3 stitch joints to conduct
5 any proper rebar fixing inspection on my own."
6 Is that part of the evidence that you had in mind
7 when you wrote that part of your report?
8 A. It is. When I wrote it, I did mean to update it rather
9 than rely on Mr Boulding's opening statement, so perhaps
10 I should have quoted Tony Tang as well.
11 Q. During the course of your evidence, you also referred to
12 something Dr Ewen said.
13 A. I did.
14 Q. Could we look at BB8/5152, please.
15 This is Dr Ewen's witness statement, and if we could
16 look at paragraph 45, please. Is this the passage you
17 had in mind when you made reference to Dr Ewen's
18 evidence?
19 A. Yes. I think there were some other parts as well but
20 certainly where it says ensuring that the right team are
21 always working from the latest approved design
22 documentation, so again managing the risk that they
23 don't have access to the latest drawings.
24 Q. Right.
25 A. As Mr Boulding said, it can always be done better.

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1 Q. Okay. Indeed, just finally on this point, the joint
2 expert report at paragraph 27(d) also covers this point,
3 does it not?
4 A. Yes. I suspect that's the same point, yes.
5 Q. Yes:
6 "Review its arrangements for future projects to
7 ensure site staff are provided with the latest working
8 drawings and to ensure that all staff have ready access
9 to them to support reliable surveillance and inspection
10 of the works."
11 A. Yes, it's managing that risk that they don't have the
12 access.
13 MR PENNICOTT: Right. Thank you very much, Mr Rowsell.
14 Sir, I have no further questions.
15 CHAIRMAN: Good. Nothing arising?
16 MR BOULDING: Yes, just on my learned friend's last
17 question, I would invite you to have regard to the whole
18 of Mr Tony Tang's statement, and in particular
19 paragraphs 11 and 52, where he makes it clear that he
20 was not responsible for the rebar inspection and thus
21 did not have the requisite drawing to check the rebar
22 installation details. If that was his responsibility or
23 not his responsibility, it's perhaps not surprising that
24 my learned friend is able to make the point he does.
25 But there we are. I'm sure you will have all the

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1 evidence in mind.
2 CHAIRMAN: Right. But thank you for reminding us.
3 Good. Mr Rowsell, I think your evidence is
4 complete.
5 WITNESS: Thank you very much.
6 CHAIRMAN: May I say thank you personally and also on the
7 part of Prof Hansford for all the assistance that you
8 have rendered.
9 I said earlier and I stand by what I said that in
10 many ways, I think that the long-term legacy of this
11 Commission will rest in the recommendations that can be
12 made to make sure that we don't encounter problems or
13 that we encounter problems of a far lesser magnitude in
14 future contracts, and you have therefore been at the
15 very core of the important aspects of this Inquiry.
16 Thank you very much again.
17 WITNESS: Thank you.
18 (The witness was released)
19 CHAIRMAN: Now ...?
20 MR PENNICOTT: Sir, you may recall that last Friday, if it
21 was 4 October, which I think it was, a letter went out
22 to all the involved parties, not just those present in
23 the room but all the involved parties in both parts of
24 the Inquiry, that's the Original Inquiry and the
25 Extended Inquiry, inviting submissions, written

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1 submissions, on the topic of essentially structural
2 engineering evidence, how can the Commission be best
3 assisted going forward, if I can put it that way.
4 The submissions were requested to be delivered to
5 those instructing me by 5 pm yesterday. We, other than
6 a letter from China Technology's solicitors, Lim & Lok,
7 didn't receive anything else, but we had an indication
8 from both government and MTR that they wished to put in
9 written submissions, and those submissions were -- and
10 I think you alluded to them earlier -- made available to
11 the Commission's legal team around about lunchtime, or
12 just before lunch and during lunch; the government's
13 just before, the MTR's during lunch.
14 Sir, they are submissions which I believe have now
15 been circulated to everybody -- when I say "everybody",
16 I mean all the involved parties -- and perhaps most
17 importantly the government will have now seen MTR's
18 submissions and MTR will no doubt have seen government's
19 submissions.
20 I've only had an opportunity of reading both sets of
21 submissions once, and frankly quite quickly. I've not
22 really had a proper opportunity of giving them the
23 detailed thought that they require, let alone discuss
24 them with my juniors and the Commission's legal team
25 generally.

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<p>1 Sir, I don't know what the government's and MTR's 2 position is in particular as to whether they wish to 3 make oral submissions in addition to that which they put 4 in writing, but I'm bound to say, having read both sets 5 of submissions, I would be surprised if they don't want 6 to say something at least in answer to each other's 7 submissions, even if they don't want to just run through 8 their own submissions, because there's a rather obvious 9 difference of view from MTR and government as to the way 10 in which we should move forward on the structural 11 engineering expert evidence.</p> <p>12 I won't say too much more about that. I think the 13 short point that I am making is that I don't see how 14 this matter can be taken forward now, this afternoon, 15 and I fear that, unfortunately, we will need to come 16 back in the morning to deal with it. Indeed, I have 17 taken the liberty of asking those instructing me to 18 inform everybody that we will in fact come back tomorrow 19 morning to deal with it, because we simply can't deal 20 with it now. I'm not in a position to deal with it.</p> <p>21 I would be very surprised if the government and MTR are 22 in a position to deal with it, let alone anybody else.</p> <p>23 CHAIRMAN: We ourselves have had an opportunity only 24 basically to be told that they have arrived and to have 25 a very, very brief glimpse at I think one, maybe both,</p>	<p>1 MR KHAW: Mr Chairman, in fact contrary to what Mr Pennicott 2 just said, we initially did not want to say much, having 3 served our written submissions, but obviously we need to 4 look at MTR's submissions tonight and see whether we 5 have any reply to it.</p> <p>6 Regarding Leighton, I understand that they do not 7 intend to file any written submissions, but in order to 8 assist everybody, I wonder whether they would at least 9 state their position, even a short statement, just to 10 let us know what their position will be. I think that 11 will help everyone. I'm not sure whether Mr Chang will 12 be able to confirm whether they are willing to do so or 13 not.</p> <p>14 MR BOULDING: I would support that, sir.</p> <p>15 MR PENNICOTT: Before Mr Chang says anything, can I just 16 mention this, that on 29 August, directions were given 17 regarding the structural engineering expert evidence. 18 Specifically, directions were given for Leighton's 19 structural engineering expert, Mr Southward, to prepare 20 a report by reference to some issues that had been 21 formulated. I say "a report", in fact two reports, one 22 for the Original Inquiry and one for the Extended 23 Inquiry. There were two sets, two lists of issues.</p> <p>24 Originally, Mr Southward was to deliver that report 25 on 30 September. An extension of time was requested and</p>
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<p>1 and that's it, but we haven't been able to digest 2 anything of any value.</p> <p>3 MR PENNICOTT: No.</p> <p>4 CHAIRMAN: Mr Boulding and/or Mr Khaw?</p> <p>5 MR BOULDING: Sir, at the moment you will probably realise 6 that I've not had very much of an opportunity to digest 7 what government have said.</p> <p>8 CHAIRMAN: Yes.</p> <p>9 MR BOULDING: So I'm not in a position to say I definitely 10 want to make submissions tomorrow, but I can understand 11 my learned friend's concern that we probably need to 12 come back and consider the way forward.</p> <p>13 What I would like to know is whether or not 14 Leightons are going to serve any submissions, assuming 15 they haven't.</p> <p>16 MR PENNICOTT: They haven't, and we made enquiries at 17 lunchtime. I know my learned friend Mr Lam spoke to 18 Mr Chang and we were told that there was no intention to 19 serve anything in writing.</p> <p>20 MR CHANG: That's correct.</p> <p>21 CHAIRMAN: Thank you.</p> <p>22 MR BOULDING: I'll take instructions and it sounds as though 23 we are coming back tomorrow morning.</p> <p>24 CHAIRMAN: Yes.</p> <p>25 Mr Khaw?</p>	<p>1 granted, and as currently advised that report is due to 2 be served and submitted to the Commission tomorrow.</p> <p>3 I assume, but Mr Chang will no doubt tell the 4 Commission if I'm wrong, that at the moment Leighton's 5 position is simply that Mr Southward is dealing with the 6 issues that he was directed to deal with on 29 August, 7 is ploughing his way through the various issues and will 8 produce a report on those issues tomorrow. That 9 probably amounts to Leighton's position at the moment, 10 but no doubt Mr Chang will tell me if I'm wrong.</p> <p>11 CHAIRMAN: Mr Chang?</p> <p>12 MR CHANG: Everyone is having a go at me when my leader is 13 not around and my instructing is not sitting next to me!</p> <p>14 The position is this. On the Commission's letter, 15 we do not intend to file any submissions, but if having 16 sight of MTR's and the government's submissions -- and 17 we are coming back tomorrow to address the Commission on 18 those conflicting positions anyway -- then I'm sure 19 overnight, after we have had a chance to go through 20 their different views, Leighton might be able to side by 21 or comment on their diverging views, if any, because 22 I honestly haven't had a chance to go through the 23 submissions now.</p> <p>24 As for Mr Southward's report, again we note the 25 deadline tomorrow and certainly he is now working very</p>

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<p>1 hard on finalising the report in the hope that we will</p> <p>2 be able to meet the deadline imposed by the Commission</p> <p>3 which is to file and serve it tomorrow.</p> <p>4 That's all that I can assist the tribunal for the</p> <p>5 time being.</p> <p>6 CHAIRMAN: Good. I would also just make mention of one</p> <p>7 issue of importance. The matters to be looked at</p> <p>8 tomorrow arise out of a meeting that the Commission had</p> <p>9 with counsel, and that meeting was held in private on</p> <p>10 a confidential, without-prejudice basis.</p> <p>11 While parties who were not present at that meeting</p> <p>12 have by letter been informed and asked for any reactions</p> <p>13 that they wish to make, the public have not been</p> <p>14 informed. I did say at the outset that the Commission</p> <p>15 will only conduct meetings in confidence in this way</p> <p>16 when it's absolutely necessary and that the public will</p> <p>17 be advised not of every word that was said but be</p> <p>18 advised of what it was all about as soon as possible.</p> <p>19 So tomorrow I would very much like the public to be</p> <p>20 able to understand (a) what the reason for the meeting</p> <p>21 was and (b) where we are with any developments.</p> <p>22 MR PENNICOTT: Yes, sir. I obviously will undertake to give</p> <p>23 that brief explanation so the public are aware of the</p> <p>24 background of what is going to happen tomorrow.</p> <p>25 CHAIRMAN: Thank you very much. That's exactly right.</p>	<p>1 INDEX</p> <p>2 PAGE</p> <p>3 MR STEPHEN GORDON ROWSELL (on former oath)1</p> <p>4 Examination by MR PENNICOTT1</p> <p>5 Oral synopsis by MR ROWSELL3</p> <p>6 Questioning by THE TRIBUNAL19</p> <p>7 Cross-examination by MR CHANG23</p> <p>8 Cross-examination by MR CLAYTON77</p> <p>9 Cross-examination by MR KHAW114</p> <p>10 Cross-examination by MR BOULDING120</p> <p>11 Further examination by MR PENNICOTT139</p> <p>12 (The witness was released)147</p> <p>13</p> <p>14</p> <p>15</p> <p>16</p> <p>17</p> <p>18</p> <p>19</p> <p>20</p> <p>21</p> <p>22</p> <p>23</p> <p>24</p> <p>25</p>
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<p>1 Thank you.</p> <p>2 Anything further?</p> <p>3 MR CLAYTON: Sir, may I just say that I don't think we will</p> <p>4 be turning up tomorrow, unless the Commission</p> <p>5 particularly wants us to. I don't think that we are</p> <p>6 involved in this particular aspect.</p> <p>7 CHAIRMAN: It's a pity, Mr Clayton. You have the royal box</p> <p>8 and it's been given to you.</p> <p>9 MR CLAYTON: I do indeed!</p> <p>10 CHAIRMAN: It will be extra-empty tomorrow.</p> <p>11 Good. Thank you all very much. 10 am tomorrow.</p> <p>12 (4.00 pm)</p> <p>13 (The hearing adjourned until 10.00 am the following day)</p> <p>14</p> <p>15</p> <p>16</p> <p>17</p> <p>18</p> <p>19</p> <p>20</p> <p>21</p> <p>22</p> <p>23</p> <p>24</p> <p>25</p>	