SCOTTISH HOSPITALS INQUIRY

Hearings Commencing
26 February 2024

Day 2
Tuesday, 27 February 2024
Janice MacKenzie (Cont.)
Graeme Greer

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THE CHAIR: Good morning to those in the hearing room and those following us on YouTube. Now, I think we are able to resume with Ms MacKenzie.

MR MACGREGOR: Ms MacKenzie, yes.

THE CHAIR: Good morning, Ms MacKenzie.

THE WITNESS: Morning.

MR MACGREGOR: Right.

THE CHAIR: Mr MacGregor?

MR MACGREGOR: Thank you. Ms McKenzie, yesterday we were talking about the general risk assessment that was completed in 2017, so if we start there and then we will continue to move through the chronology. If I could just ask you, first of all, to have your witness statement in front of you. So that is within bundle 1 of the witness statements, and if we could look to page 151 and to paragraph 20, and if we just pick matters up at the very bottom of that page. So you are introducing matters and you say, "I appreciate that the NHSL risk," and then if we move over the page:

> "Assessments were predicated on NHSL having noted that the proposed ventilation arrangements for these rooms was contrary to SHTM 03-01 in relation to the pressure regime. That predication would likely have been on the advice of MM [Mott MacDonald]."

Do you see that?

A Yes, I do.

Q And you said yesterday that-- I think your recollection was that it might have been Colin Macrae that had given that advice, is that correct?

A Yes, it is.

Q How certain are you that the advice was coming from Mott MacDonald and Mr Macrae in particular?

A I'm fairly certain it did, yeah.

Q And were you having direct discussions with Mott MacDonald, or would that be other members of the project team that would be having those discussions?

A I would have been having, yes, some direct conversations with them, and we did about a number of things, so it wasn't always through somebody else.

Q Okay, because in your statement, you fairly say you are not an engineer, you are a clinician, and there is a very clear statement within the risk assessment that there is non-

compliance with SHTM 03-01. So, given that you are not an engineer, is that something that someone would have had to have told you?

A Yes. I mean, I wouldn't have said it unless someone had told me it.

Q Yes. And again, as you fairly say in your statement, you are not sure how it gets in there with the passage of time, but you think it was Mott MacDonald and you would think it was probably Colin Macrae.

A Yes.

Q Thank you. The risk assessment was refreshed in 2018. Can you remember, why was it that you felt a need to refresh the risk assessment?

A We were asked to refresh it because there were still ongoing discussions with IHSL around what the solution would be, and particularly in relation to the rooms because we identified four-bedded rooms that were essential and then those that were desirable, so we were asked to just re-look at that to check that the clinical management team were still comfortable with those decisions.

Q And again, the risk assessments, they are looking at a need from the clinicians to cohort

patients, is that correct?

A Yes, and the clinical management team very much were looking at it from a hospital-wide approach as to kind of where they would cohort patients in the hospital.

Q And in terms of the clinicians, your role in the project, did you think at any point that you were agreeing to derogate from published guidance such as SHTM 03-01 in terms of what you were asking for in terms of these risk assessments?

A Not in relation, no, to the pressure. We thought that was the right thing to do. I think the issue was around-- I mean, the reason, I think as I said yesterday, that the design team for IHSL had said that it was to be positive pressure was the issue that they had classed a four-bedded room as a general ward, and our view was that a four-bedded bay was not a general ward, it should be treated the same as a single room, and HFS supported that view as well.

Q And in terms of the risk assessments that are taking place, is there any discussion at this time around about air changes? So, we have talked about pressure, but is there any discussion around about the air change rates?

A Certainly not within the

clinical teams, no.

Q And in terms of the clinicians, four-bed rooms, did you think that you were agreeing to derogate from standards and published guidance in relation to air changes for the four-bed rooms?

A No.

Q And what about single rooms in critical care, did you think you were agreeing a derogation in relation to air change rates from published guidance for single rooms in critical care?

A No, because I wouldn't have viewed a single room in critical care as the same as a single room on a ward.

Q Thank you. If we can maybe just look to the refreshed general risk assessments. That is in bundle 6, page 14. So bundle 6, page 14. You see in the top of the document, "Record of General Risk Assessment," top right-hand corner, "05/07/17, reviewed on 29/01/18." Do you see that?

A Yes.

Q So when we are talking about the 2018 refreshed risk assessment, this is the document we are talking about?

A It is, yes.

Q Thank you, and we see

that the manager responsible is Janice MacKenzie. The subject of the assessment:

> "Bedroom Ventilation design in 4 bedded rooms does not meet the recommendations of SHTM 03-01, as the current design has the 4 bedded rooms as being positive pressure."

Do you see that?

A Yes.

Q So there is still this statement about compliance with SHTM 03-01. Is that something that is just carried forward from the 2017 risk assessment, or is this something that has been looked at afresh in 2018?

A From my recollection, it was just something that was carried forward.

Q Thank you. So, in the period from 2017 until 2018, no one else involved in the project is telling the clinical team, "Actually, that statement about SHTM 03-01, that is wrong"?

A No one was telling us that, no.

Q Thank you. We see the next paragraph, in bold it states:

> "To allow cohorting of patients with the same air-borne infections these rooms require to be balanced or negative

pressure."

Do you see that?

A Yes.

Q So again, this is really just a reiteration of what you have told the Inquiry before. The key clinical requirement is the cohorting of patients, is that correct?

A That's correct, yes.

Q We then skip to the penultimate paragraph, and we pick matters up just three lines from the bottom of that paragraph. It states:

"Risk assessment highlights that it is essential [in bold] to change the ventilation in 7 of the 4 bedded rooms within RHCYP. It would be desirable to change the ventilation in 6 of the 4 bedded rooms within RHCYP."

Do you see that?

A Yes.

Q So again, is this a change-- 2017 we are talking about one room, now we are talking about four rooms by the time we get to 2018.

A Four rooms in----

Q In critical care.

A No, we never were-- we were-- it's only three rooms in critical care in this----

Q Three rooms in critical care?

A Yeah.

Q Thank you. Then we see, the next paragraph:

"The risk assessments have been discussed with the Children's CMT and Infection Control & Prevention who have confirmed that not having the ability to cohort patients is not acceptable from a patient safety perspective."

Do you see that?

A Yes.

Q And then, step one, if we just look to the final paragraph, "See separate risk assessments." So, again, there is the separate risk assessments for various spaces within the hospital. Step two, that is made clear again, "See separate risk assessments," and then, step three, the general precautions. It said:

"Isolation rooms have positive pressure lobby which acts as an air curtain and also a hepa-filter to prevent the transfer of air-borne infection from the corridor into the room or the room into the corridor."

Do you see that?

A Yeah.

Q So a specific mention of isolation rooms and then we see the summary of risk by wards. The final box there, "RHCYP – Critical Care,

one 4 bedded room low acuity HDU (B1-" [and then over the page it says] "063)." Do you see that?

A Yes, just seems to go over the page.

Q If you just move over the page.

A Yeah.

Q Onto page 15. So it is saying there is "one 4 bedded room low acuity," so I think that was the original that we saw from 2017----

A Yes.

Q -- and then we see it continuing, "& 3 bedded room surgical neonates (B1-065)." Do you see that?

A Yes.

Q So is that the additional rooms that are now going to have to go in----

A Yes, that was the additional one, yes.

Q I know it says-- is that three four-bedded rooms it is referring to?

A No. So, in surgical neonates, they didn't have one four-bedded bay, they only had three beds in that room.

Q Three beds in that room, okay. So although it is saying three-bedded, it is one room with three beds in it?

A Beds in it, yeah.

Q Thank you, and then on page 15, if you look to the bold heading, "Summary of Risk by Ward/s," it says, "RHCYP – Critical Care, 4 bedded room intensive care (B1-009)" Do you see that?

A Yes.

Q And then if we move down, "Summary of Risk by Ward/s," second box there, we see, "RHCYP – Critical Care. No change to high acuity 4 bedded room (B1-031)." Do you see that?

A Yeah.

Q And if we look on to page 18, please. The department here for this risk assessment is RHCYP Critical Care B1. Do you see that?

A Yes.

Q Then below that, the subject of the assessment, "Ability to cohort patients within Critical Care Unit," and then:

> "Step 1: What are the hazards? Clinical risk is still relatively high if no cohort area available and therefore operationally to retain the ability to cohort within B1-063 (low acuity HDU) and B1-065 (surgical neonates) is essential and it would be clinically and operationally desirable for B1-009 (intensive care)."

Do you see that?

A Yes.

Q And then if we look to step three, again, we have got:

"Critical Care (B1) – 24 beds

1 x 4 bedded rooms (low acuity)

2 x 4 bedded bays (intensive care & high acuity)"

Do you see that?

A Yes.

Q Okay. Do you have any recollection of whether this risk assessment, the one from 2018, whether that was sent to or discussed with anyone from Mott MacDonald?

A I honestly can't recall if it was.

Q If we could look on, please, to bundle 13, volume 5. Bundle 13, volume 5 and to page 1243.

THE CHAIR: Thank you.

MR MACGREGOR: So, at this point in the chronology, we are just a few days on from whenever you completed the refreshed risk assessment and if we look to the email in the middle, so the one from Dorothy Hanley to Janice MacKenzie, copying in Graeme Greer and Brian Currie on 1 February 2018, do you see that it states, "My comments in addition of rationale column for Janice's additions/amendments"? Do you see that?

A Yes.

Q And then if we look down to see the document. We look to page 1244, you see it is a document. Top left-hand corner, it is Mott MacDonald. It is headed up, "RHSC + DCN – Multi-Bed Room: – 4 beds ventilation extracts from the IHSL Environmental Matrix." Do you see that?

A Yes.

Q So was this a document that you had been commenting upon?

A From my recollection, we were asked if it had been populated, and we were just being asked to check that the information around the rooms that were to be essential and the rationale were correct.

Q It is a Mott MacDonald document. Can you remember why, at this point in 2018, are Mott MacDonald creating this document and sending it to you for comments?

A I don't recall why they were.

Q If we perhaps just look at the document, and it is really the second box down, the one B1, "PICU and HDUs," that I am interested in. So if we could perhaps just zoom slightly in on that because this is a document

produced by Mott MacDonald, but it has got the department as the main box. There is the code for B1 that they have inserted. Again, can you just remind us, what was your understanding of what the code B1 meant?

A The B1's critical care.

Q Okay, so B1 means critical care. Then next to that, the department says, "PICU and HDUs – 24 beds." What was your understanding of what PICU and HDUs meant?

A So PICU is Paediatric Intensive Care Unit, and HDU is the High Dependency Unit, but they were one department and that was just a categorisation of how the beds were split within the unit, but we were very clear in the clinical output specification that the beds all had to be treated the same as critical care beds to allow us flexibility.

Q Okay. So although it has been called PICU and HDU, your understanding is that, in shorthand, that still means critical care?

A Yes.

Q Then if we look to the-- perhaps just take the first two entries in the boxes as we look across, we see that there is "Multi-bed wards for room B1-009." It is going to have

natural and central supply, at four air changes per hour, extract of 1.7, relative pressure of positive, compromise from 24 February is described as essential. The draft for 01/02 states, "Would be very useful, but not essential for current planned operational use. May compromise future Service development needs." And then, in terms of the rationale, it says, "Operationally cohorting within this area is impractical due to number of access/egress points and number of persons using through corridor." Do you see that?

A Yes.

Q What did that mean?

A It was how that particular four-bedded bay was designed. It was in the middle of the unit and it had a number of ways that you could go in and out of it. So, from an infection risk, you wouldn't cohort patients in that because it would be really difficult to manage the kind of entry and exit points.

Q Thank you, and then we have been looking at B1-009. If we could perhaps just look a couple of lines down, we see entries for B1-063 and B1-065. If we could perhaps just scroll over to the left so we can see the right-hand side of that. Again, for both B1-063 and B1-065, we see central

supply and extract, four for the air changes and then three for the extract. One is positive, one is described as balanced. Again, from 2017 it is essential, still essential, and then the comments for the first one are:

"Patients with same respiratory illness will be cohorted to ensure ease of observation and safe care."

Do you see that?

A Yes.

Q And then the next one down:

"Preterm babies with the same respiratory illnesses will on occasion need to be cohorted to ensure ease of observation and safe care."

Do you see that?

A Yes.

Q So, again, are the comments really just reiterating what we see from the clinical risk assessments, that there is these spaces, you are sitting at the end, why the rationale is there from a clinical perspective, and we see other information, technical information, in relation to air changes and pressure rates? Is that correct?

A Yes.

Q And in terms of the air changes and pressure rates, is that

information that you would be populating as a clinician?

A No, absolutely not.

Q So, who would NHS Lothian be relying upon to correctly populate that type of table?

A I would have assumed that this would have been Mott MacDonald because it was their document.

Q Thank you, and certainly at this point, is anyone from Mott MacDonald having a discussion with you as a clinician, and saying some of the values that we see in this table for pressure and air change rates, they are wrong and they do not comply with SHMT 03-01?

A No, there was never any discussion.

Q If someone had raised that with you, and said, "I hear that you want to cohort patients. If you want to do that and it has to be balanced or negative pressure, you are going to have to derogate and not comply with published guidance SHTM 03-01," what would your reaction have been?

A I would have wanted more information about that. We would have discussed it with Infection Control, and we would have wanted a better understanding. We would absolutely have taken advice from

Infection Control. I suspect we also would have taken advice from HFS and from Ronnie Henderson as well.

Q And is that because, in terms of those parameters, you are a clinician and you know what you want to achieve, but can you make a determination in terms of what you would like clinically is going to be 'safe' from an Infection Prevention and Control angle?

A I can't from the point of view of, kind of, air changes. I mean, I think we very much were saying this is what we want to do, and it's for the design team to come up with how we can achieve that, which was-- for the purpose of the clinical output specifications, we were giving as much information as we could about activities that were happening so that the designers could then design a facility that would allow us to provide the care that we needed to provide.

Q Thank you. One issue that I would be interested in, in terms of your role strategically within the project: the Inquiry has heard a lot of evidence in terms of the revenue-funded project and where design risk sat. As I understand it, NHS Lothian's position was that really with the revenue-funded project, what they wanted to do was put all of the design

risk onto the project company. So, NHS Lothian would say, "This is what we want the hospital to achieve but the design risk sits with the project company," apart from a term that has been used, "Operational functionality," so things like clinical adjacencies.

A Mm-hmm.

Q If that was NHS Lothian's intention in terms of the project, this type of document, that is a detailed spreadsheet produced by Mott Macdonald setting out air changes, pressure rates, would seem to be quite a long distance away from operational functionality and all of the design risks sitting with Project Co. Is that fair?

A Yes, I think it is fair. I mean, I can't recall why this particular document was what Mott's decided to do. I don't know.

Q And can you recall from your involvement in the project how matters got to this point, from the start of the project wanting all of the design risk to sit with project companies-- simply NHS Lothian says, "This is what we want" and someone else designs it. Yet, we see by 2018, NHS Lothian's technical advisors are producing detailed spreadsheets with technical information.

A I suppose I'm honestly not sure, really, why. I could only

probably speculate in that it was probably down to-- because it was becoming apparent that there were quite a lot of issues arising that it was maybe felt that we needed to scrutinise things a bit more.

Q So, by this point, contracts signed around about 2015. We are now in 2018. On the NHS Lothian side, are there real concerns about the project and the design that is coming back from IHSL and Multiplex?

A I think there was definitely concern in a number of areas. It tended to be more technical issues as opposed to the kind of-- the elements that I was directly involved in, in relation to the kind of the planning of departments and layouts and things. I mean, there were some issues there, but we were-- usually managed to resolve them in discussion, but I think I was aware that there were, you know, other issues that were kind of going along and that people were unhappy with.

Q And if we take this dispute as an example, there is a dispute, effectively, in relation to the pressure regimes where NHS Lothian is saying it needs to be balanced or negative for these rooms. IHSL, Multiplex, is saying, "No, it does not. It has to be positive." What level of

confidence did NHS Lothian have in the design that is coming back from IHSL and Multiplex?

A I think that's quite a difficult question for me to answer. I think you probably would have to ask probably the people that are more directly involved. I mean, I think that, you know, generally there was a feeling of concern about the level of issues that were being highlighted.

Q The Inquiry will hear from Mr Greer from Mott MacDonald later today. His position in his witness statement is, Mott Macdonald were not a shadow design team, they were not undertaking a design review, it was not their job to go through things like the Environmental Matrix, doing a line-by-line review. Did you ever have any discussion with other members of the project team – so Brian Currie, Mr Henderson – about whether that really detailed line-by-line review should be taking place, given the emerging concerns that were just discussed?

A No, I didn't. No.

Q Within 2018, there is a point where there is a principles meeting, effectively, between NHS Lothian and IHSL and Multiplex to try to discuss whether there's a way that the deadlock could be broken. Is that right?

A Yes.

Q And I think that meeting takes place at the Sheraton hotel in Edinburgh. Is that a meeting that you attended?

A I did attend it, yeah.

Q And could you just explain to the Inquiry, what is your recollection of what was being discussed at that meeting?

A So, what was being discussed at that meeting was, I think, all of the outstanding issues, so issues that-- where a solution hadn't been agreed. There were a lot of people at that meeting, and it wasn't just one meeting. There was a lot of, kind of, subgroups who went to look at a specific issue. So people would go into different forums to discuss a specific issue so that both parties, I think, could hear each other's arguments, and what the Board wanted to do and what our solution was.

Q The Inquiry heard from Mr Henderson yesterday. He said his recollection of these meetings is-- the 20 rooms that are in dispute, where the pressure is in dispute, those rooms are being discussed, but his recollection was there was not any discussion about those rooms being in critical care. Do you have any memory

of that?

A No, I don't. I mean, I do recall them being discussed, but it was around the pressure regime.

Q And is the discussion taking place solely in relation to the pressure regime? Is there any discussions taking place in relation to the air changes per hour in those spaces?

A No, not that I recall.

Q And was there a broad in-principle agreement that was reached on the 20 rooms in dispute at that principals meeting?

A I think it's kind of quite difficult because there were so many discussions, except that I think there was a general-- we were getting there. I don't know that we completely had reached agreement by then, but I think we were beginning to get there.

Q But at some point, either at the meeting or in the period thereafter, there is a broad agreement that is reached in terms of what the ventilation parameters should be for the 20 rooms in dispute?

A Yes. I mean, there was agreement on that. I think then it became more kind of commercial issues around, you know, whether or not that should be a board change or if it was for IHSL.

Q And in relation to the pressure regime for those 20 rooms, what was the agreement?

A So, the agreement was that they needed to be balanced or negative pressure.

Q Thank you, and at that meeting, on the NHS Lothian side, is anyone from Mott MacDonald attending those meetings?

A Yes. Mott MacDonald were there, yes.

Q Can you recall which individuals were there?

A I'm sure Graeme Greer was there. I think it might only have been Graeme. There might have been a couple of other people came for specific-- in fact I think they did. I think some people did come.

Q Thank you. There is a variety of meetings that take place after this period, so after the meeting that takes place at the Sheraton hotel or the period thereafter, when there is a broad agreement. Just to give one example, if I could ask you to have in front of you volume (sic) 13, bundle (sic) 2, page 1246. Volume 13, bundle 2, page 1246. There is a meeting a few months after that meeting takes place, and it is called an M&E workshop. You will see that there's Ken Hall, Stewart McKechnie from

Multiplex, and TÜV SÜD. It was three individuals from Mott MacDonald: Kamil Kolodziejczyk, Douglas Anderson, Colin Macrae. Ronnie Henderson attends, and then there is another individual from Multiplex. Nobody from the clinical side or Infection Prevention and Control is at these meetings. Do you know what was being discussed at these types of meetings that take place from 12 April onwards?

A I mean, not specifically. I mean, I would have-- If there had been a particular issue, then-- that kind of needed clinical input, then the practice was they would come and ask either myself or one of the clinical commissioning managers, but without, kind of, knowing the detail of what was being discussed. We certainly didn't routinely get any notes or anything from them.

Q Okay, so at this point there is technical people looking at technical solutions, but we do not have clinicians or Infection Prevention and Control attending the meetings. Is that fair?

A Yeah.

Q But you say that you would be available? If someone needed some clinical input, they could get in touch with you?

A Yeah.

Q Thank you. I would ask you to look within bundle 10, please, to page 179. So this is a document, "Multi Bed Ventilation Amendment Proposal to Achieve Room Balance." Do you see that?

A Mm-hmm. Yes.

Q So it is a TÜV SÜD document. So if we just take a couple of examples. So letter D there, so room reference D, that is room B1-063. Room E is B1-031. Room F is B1-009. Do you see that----

A Yes.

Q -- in the bottom left-hand corner? Now, if we look on to page 182, there is a stamp with RDD signed by you on 26 July 2018. Do you see that?

A Yes.

Q Why were you signing off on review or design data?

A So, the procedure for the sign-off of review or design data was that it was usually either myself or Brian Currie who would sign off once it had been reviewed. So, the process was, anything that came in for RDD would be sent by IHSL to Mott MacDonald. They would ensure that whatever it was was sent to relevant people for review, and once that had happened and we were-- they were satisfied that there were no significant comments on it, they would then give it either to myself or Brian Currie to sign off. Brian and I tended to split what we would sign off, so I didn't tend to sign off more technical documents because I wasn't involved in any of the discussions, but, however, there were occasions when I had to because Brian Currie wasn't there. I would tend to, for RDD, sign off more of the design plans and documents, but equally, Brian Currie would sign them off if I wasn't there. So that was why, but it was being signed off on-- predicated on the fact that it had been reviewed and nobody was highlighting any comments on it.

Q So again, not an independent judgment you are making. Other people within the team have reviewed it and are effectively telling you it is perfectly adequate to sign this off, and then you sign it off.

A Yes.

Q Again, just thinking back to the role of Mott MacDonald, the Inquiry has heard evidence that they are not doing a shadow design team role, they are not doing a detailed line-by-line review, but for a document like this – it starts on page 179; it is three pages long – were you anticipating that this type of document-- is that

going to have the sort of light-touch sampling review that Mott MacDonald addressed in some of their evidence to the Inquiry, or were you anticipating for a document like this that it had been thoroughly reviewed by Mott MacDonald?

A Yeah, I would have expected-- It isn't a long document, and also this wouldn't have been the-- Well, in fact, looking at the bottom, this wasn't the first time it had been issued, so I would have anticipated it had probably been issued to us a few times for RDD and it will have gone back with comments and then come back to us.

Q It is important to stress it is not part of the Inquiry's remit to work out the precise contractual obligations between NHS Lothian and Mott MacDonald Ltd. What I am really interested in is, as I understand your evidence, you are saying whatever the precise contractual arrangements, your understanding for a document like this is it has been thoroughly reviewed by your technical advisors, including engineers, before it is presented to you for sign-off.

A Yes.

Q It is perhaps going slightly back in the chronology from the document we have just looked at, but there was the potential for a litigation between NHS Lothian and IHSL. Can you just explain your recollection of where matters had got to and why NHS Lothian were thinking about raising court proceedings?

A From my perspective, it was because we couldn't get agreement, I suppose. NHS Lothian felt that it should be Project Co, in effect, that would be paying for that – it shouldn't be NHS Lothian – so it was it was based on kind of commercial issues.

Q And in terms of the litigation, you produced an affidavit that would have been provided in that litigation had it gone ahead. Is that correct?

A That's correct, yeah.

Q And NHS Lothian had got to the point that a summons, a physical court document, had been drafted up. Is that correct?

A As I understand, yes.

Q Can you recollect that? That seems like quite a major step for a public body to be taking. Had there been technical advice that had been received by NHS Lothian in relation to the technical solution that they were saying had to be provided by IHS Lothian?

A I mean, I wasn't heavily--

I mean, yes, I had to provide an affidavit, but I wasn't heavily involved in kind of the discussions about why we were going down that route. I know that, or I'm pretty sure, NHS Lothian did ask somebody independently to have a look at it, but I don't know the specifics.

Q So you provide the affidavit, effectively, from a clinical perspective. You are aware that other things are taking place – there might be things like expert reports – but is that really for other people to deal with? That is not something, as the project clinical director, that you are heavily involved in?

A Yes. I mean, Brian Currie from the project was definitely taking the lead on that.

Q Okay, thank you. So, the Inquiry has heard evidence that there is broad agreement reached in 2018, the litigation was avoided and IHSL really just get on and build the ventilation system. So that has, to all intents and purposes, been broadly built by the end of 2018. Was that your understanding?

A Yes.

Q Do you recollect NHS Lothian receiving a letter from IHSL in relation to the ventilation system and its compliance with published guidance thereafter?

A No, I don't at the time. I'm subsequently aware of it, but I don't at the time, no.

Q Okay. So you became aware of this, but is this further down the line later in the project? You are not aware of it at the time or dealing with it?

A Not that I can recall, no.

Q It is not a memory test, so if we perhaps just bring the letter up. It is in bundle 4 at page 9. Bundle 4, page 9. It is a letter of 31 January 2019 addressed to Brian Currie, and then if we look over the page on to page 10, it says:

> "All critical ventilation systems inspected and maintained in line with 'Scottish Health Technical Memoranda 03-01: Ventilation for healthcare premises.'
>
> "Construction: - All ventilation systems have been designed, installed and commissioned in line with SHTM 03-01 as required, systems are maintained in such a manner which allows handover at actual completion to meet SHTM 03/01 (sic) standards.
>
> "Operations: - All critical systems will be inspected and

maintained in line with 'Scottish Health Technical Memorandum 03-01: Ventilation for healthcare premises.'"

Do you see that?

A Yes.

Q Do you remember having any discussions with Mr Currie about this letter and its contents around about the time that it was issued, so in early 2019?

A I don't remember having any discussions about it. I do have a recollection that IHSL were being asked to confirm that they had complied, but I don't remember having any discussions.

Q Perhaps that will become significant to you later on, but at the time that it is issued, this is not something that you are sitting down and having meetings with Mr Currie and Mr Henderson and discussing at length?

A No.

Q Thank you. In relation to the settlement agreement – that formally records the agreement that is reached during 2018 – what involvement, if any, did you have in the drafting of the settlement agreement and the technical schedule in that document in particular?

A So, I didn't have a huge

role other than ensuring that any issues that had been highlighted by myself through the design or by the commissioning managers in relation to the design or any of the more clinical elements were included in it because they were still outstanding. They hadn't been-- or they were a compromise.

Q And in relation to the technical schedule itself that is setting out the precise technical details, who has to do what, what is your recollection? Who, or which entity, was drafting the information that went into the technical schedule?

A From recollection, I think it was predominantly Mott MacDonald.

Q Okay. If I could just ask you to have in front of you Mr Henderson's affidavit, so that is in bundle 3 of the witness statements, and if we could just look to page 288, please, and to paragraph 22. So page 288, paragraph 22. What Mr Henderson says is:

"MML [Mott MacDonald], ISHL and MPX [Multiplex] drafted the agreed resolutions to the disputes over ventilation in four bed and single rooms that are found in the FA1 technical schedule."

Do you see that?

A Yes.

Q So is that your recollection as well? Do you agree with that or disagree with it?

A Yes. No, I would agree with that.

Q But clearly you said, from a clinical perspective, you were having some input, so can you remember, what input were you providing?

A So there were some items that were on the technical schedule that still hadn't been resolved. So, from memory, there was items around child and adolescent mental health, around sockets. I can't remember if there was something about anti-ligature. There was issues around glazing in an area of DCN and critical care, issue of movement joints being in clinical areas that shouldn't have been, so it was ensuring that those were listed.

Q Thank you, and still within Mr Henderson's affidavit, if we could look over the page to page 289, paragraph 27, please. So page 289, paragraph 27. Mr Henderson says, "We relied on advice from Mott MacDonald in relation to the agreed resolutions." Do you see that?

A Yes.

Q And would you agree or disagree with that statement?

A I would agree with that.

Q If we move forward slightly in the chronology, the Inquiry has heard evidence that there came a point in time where there was independent testing that was done by IOM Ltd. The Inquiry has also had evidence in relation to the Stage 4 HAI-SCRIBE, which was not completed before the building was handed over. So the way Settlement Agreement 1 worked was building gets handed over and that happens before the Stage 4 HAI-SCRIBE. But were you involved in the process? After handover, was there an attempt to do a Stage 4 HAI-SCRIBE?

A After handover, yes. We had one attempt, and to do one we had a meeting with Infection Control about how we were going to do the HAI-SCRIBE because there was a recognition that to do just one for the whole hospital would be really difficult, so we divided areas up. So we agreed that we would do one for outpatients, one for theatres and radiology, and then one for inpatient areas, and we did a kind of trial run in, I think it was the April time, but actually it was quite difficult to do because there was still a lot of building work going on, so a lot of the areas that we wanted to look at weren't in a fit state for us to do it, so

when we did complete the documentation, we agreed we would have to repeat it.

Q Yes, and maybe just in terms of some of those interactions with Infection Prevention and Control, if I could ask you to look to bundle 13, volume 8, please, page 2218. Bundle 13, volume 8, page 2218. Sorry, bundle 13, volume 8, page 2218. 218. So this is an email from Alex McMahon on 17 June to Susan Goldsmith, Jim Crombie, Brian Currie, yourself and a number of other people. Who was Alex McMahon?

A He was the Director of Nursing at the time and he had Infection Control reported into him.

Q Okay, and we see him saying, "Susan and Jim (others), Please see below Donald's comments." Do you see that?

A Yes.

Q And then, if we look below, there are various comments from Donald Inverarity and Lindsay Guthrie. If we could perhaps just look to page 2219. At the top of the page it says:

> "Hi Alex
>
> "I'd expect to see the documentation for Risk 2 made available to the Water Safety Group on June 20th, and Risk 1 ventilation information to be made available to the Ventilation Steering Group on 4th July.
>
> "I would suggest those are the 2 most pressing issues that we would seek assurance on, and in the absence of the information requested I'm not sure that the ICPT can give a realistic assessment of clinical risk."

Do you see that?

A Yes.

Q So, at this point in time, engagement with IPCT, but are IPCT really struggling to give a view because the hospital really hasn't been completed to the point that it is cleaned and ready to open?

A Yes, and also, they weren't-- they weren't-- as my understanding was, they weren't getting the information that they wanted as well around-- I mean, it mentions water safety but also ventilation as well that they needed so that they could feel comfortable.

Q Again, we will come on and look at the HAI-SCRIBE documentation in a moment, but is that because, again, like we have seen in the SHFN document, it is the partnership approach, the multidisciplinary team, whereby it is

not just clinicians or Infection Prevention and Control; you need to draw on all areas of expertise to complete the HAI-SCRIBE?

A Yeah.

Q Thank you. If we could look on to the draft HAI-SCRIBE that was completed, or partially completed, for the project. It is bundle 5, page 95. Bundle 5, page 95. See at the top of the document, "SHFN 30, Part B: HAI-SCRIBE," and then we see in terms of the HAI-SCRIBE review team, a range of individuals mentioned, so Lindsay Guthrie, Sarah Jane Sutherland, Ronald Henderson, Fiona Cowan, Dorothy Hanley and yourself, Janice Mackenzie. Do you see that?

A Yes.

Q If we look a couple of pages down to page 98, you see questions 4.26 and 4.27. "4.26: Is the ventilation system designed in accordance with the requirements of SHTM 03-01 Ventilation in Healthcare Premises?" Do you see that?

A Yes.

Q It is ticked with an asterisk, and it says, "With derogation 4 ac/hr, single risk assessed and approved." Do you see that?

A Yes.

Q What did that mean?

A So that was information

that Ronnie would have provided to say that we did have a derogation for single rooms, that we had accepted to have four air changes as opposed to the six air changes that were required for general ward.

Q At this point, is that making any reference whatsoever to critical care rooms?

A No, we didn't. We weren't discussing that, no.

Q Thank you. Then 4.27, it says:

> "Is the ventilation system designed so that it does not contribute to the spread of infection within the healthcare facility? (Ventilation should dilute airborne contamination by removing contaminated air from the room or immediate patient vicinity and replacing it with clean air from the outside or from low - risk areas within the healthcare facility)."
>
> Do you see that?

A Yes.

Q Again, that box is ticked. Why was that box ticked?

A That box would have been ticked because Ronnie would have said that yes, it was, that that was compliant.

Q Again, in relation to the

individual members of the team that we have looked at at the start, we are now looking at technical information relating to the ventilation system. Is that something that you were able to contribute to, or were you really relying on other people to either tick or cross those boxes?

A Actually, I think it was Lindsay that completed the form with us. I mean, who completes the form is a kind of-- there's no right or wrong answer to that as long as you're all there, but she would have been asking. It would have been Ronnie as the kind of estates person there that she would have asked that question of, because none of us could have said that the ventilation system was compliant.

Q Thank you. Perhaps just if we look at 4.26, there is an asterisk next to the tick, and then if we look back up onto page 95, there are three asterisks there. One is "Lochranza – Haem/Onc ward," one is "PICU – Paediatric Critical Care," and then another is "DCN Acute Care." Do they have any relevance to the asterisks we have just looked at, or do they relate to something different?

A I don't think they do. Those were the areas that we went to look at.

Q Thank you. Not possible to fully complete the Stage 4 HAI-SCRIBE at this point in time because of the issues raised by Infection Prevention and Control, is that correct?

A I think by all of us who were doing it, it was obvious that we couldn't completely, you know, say that everything was correct. We could for some things but not for everything because there was still building works going on, so it wasn't a clean environment.

Q In terms of timing, how close are we at this stage to the hospital target opening date?

A That one there I think was probably the April one, and then we repeated them all in May, and there were still some building works going on. I mean, there was building works going on practically up until the moment we were ready to move.

Q What was the targeted opening date for the hospital?

A We were starting to migrate on the 6th, 7 July over a period of, kind of, 10 days.

Q So should the Inquiry understand that in the period April/May, both yourself from the clinical team and everyone else involved in the HAI-SCRIBE, even at

that late stage, they still were not able to complete and fully sign off the Stage 4 HAI-SCRIBE?

A Yes.

Q Thank you. Now, the next period in the chronology I would like to raise with you is the point in time where IOM Limited come in and do various testing. Were you involved in the instruction of IOM Limited, or was that for other people in the project team?

A I wasn't involved in the instruction. I knew it was-- we were going to be instructing them and that they were coming, yes.

Q Did there come a point in time where you were informed that, effectively, IOM had come in, they had done their testing and, on their analysis, areas in the hospital did not comply with published guidance, including SHTM 03-01?

A Yes, I was. I was aware that they were raising concerns.

Q Whenever those concerns were raised with you, what was your reaction at the time?

A I suppose I was shocked at the time that we were in a position in less than a few weeks to be moving in, and we were being told that, potentially, there was a problem.

Q Again, is that because what you have told us previously in your evidence, you are moving along considering that everything complies with published guidance and I think you then say, "It's a shock to be told suddenly, at the 11th hour, actually, this brand-new hospital does not comply with published guidance"?

A Yes, yes.

Q Do you recall whether there was any explanation that was provided to you by anyone working on the NHS Lothian side as to why IOM had come back and said, "There has been a fail against the published guidance"?

A Explanation as in what IOM were saying, or?

Q As in, whether it was a shock to other members working in the team, or whether it was actually expected?

A No, it was a shock to-- I think it was a shock to everybody.

Q If we could look within bundle 6, please, to page 177. Bundle 6, page 177, and it is the email right down at the bottom, the one from Graeme Greer to Janice MacKenzie on 20 June 2019. Do you see that?

A Mm-hmm.

Q So, that is the start, but really the text of the email is over the page on page 178, the top of page

178. Mr Greer states:

"The SHTM/SA query relates to the difference in air change rates for the 4-bed rooms, and I think isolation suites. IOM commented that the air change rates were lower than SHTM requirements.

"Think it depends how we want the information presented to Infection Control. A fail on the IOM report that can be explained by the compromise in the SA, or a note in the IOM report referring to the SA? Perhaps worth a conversation with IOM today?"

Do you see that?

A Mm-hmm.

Q What was your understanding of what Mr Greer was telling you in this email?

A So, I think this email was sent to a number of us. It wasn't just sent to me but I think-- Sorry, what date was this again?

Q So, it is 20 June 2019.

A Right, okay. So, I think he was kind of querying how this information would be presented, and his focus was on the kind of, the four-bedded rooms. I'm not sure why he specifically mentioned isolation suites because they were compliant, so I'm not quite sure what the significance of that was.

Q (Inaudible – 01:10:47) SHTM requirements, then in the second paragraph he says that a fail, one explanation might be the compromise in the SA, the settlement agreement. Do you see that?

A Yes.

Q Had you understood that the settlement agreement was going to contain a derogation from the published guidance SHTM 03-01?

A I knew it did have derogations in it because it had the derogation from the six to the four air changes. It also had a derogation for Lochranza around neutropenic patients, so I was aware that, yes, there were some derogations within it.

Q But did you think there were any derogations from published guidance in the settlement agreement, in relation to critical care areas?

A No.

Q Thank you. If I could then ask you to have a look at-- still in bundle 6, page 181. Bundle 6, page 181, and it is the email from yourself to Graeme Greer. It is on 19 June. It is quite late; it is at 10.36 p.m. in the evening. Does that just give a flavour of what is happening at this time? Would it be normal for you to be working at 10.36 in the evening?

A No, not normal. I mean, this was an incredibly busy time and

my main focus at this time, along with the commissioning managers, was about getting the area-- the hospital operational for moving in, so we were working long hours. We were working with all the clinical teams, we were helping them in setting up all their areas, making sure that they'd all had their adequate training and things, so it was an incredibly busy time. So yes, the only opportunity often I got to look at my emails was very late at night.

Q Yes. I think this comes in the period where you said you are really quite shocked that you are getting this information about the non-compliance with published guidance.

A Yeah.

Q What you say to Mr Greer is:

> "Thanks, Graeme, for this. I'm not sure what the SA said and the different requirements to the SHTM. From an Infection Control and Facilities perspective, I'm pretty sure they would want the results against the SHTM."

Do you see that?

A Yeah.

Q What did you mean by that?

A I think I meant that I didn't have instant access to the SA, so I couldn't recall exactly what was in it, but that we would absolutely want the results against the SHTM.

Q Again, if we just think back to some of the procurement documents that we looked at when you gave evidence before, really what NHS Lothian had said throughout is what they wanted was a state-of-the-art facility that complied with best practice guidance. How did you feel, as a clinician, to be told that suddenly, a few weeks before the hospital was due to open, that that was not what had been built?

A It was incredible-- I must say I was shocked, and it was very disappointing.

Q If we still look within the email of 19 June, just the penultimate paragraph, you say, "I also wonder if for the avoidance of doubt, we just need to re-emphasise the importance of this external validation and implications of tests fail!" Do you see that?

A Mm-hmm.

Q What did you mean by that?

A I think just I was highlighting that the potential implications of this were going to be very significant.

Q In simple terms, what did it mean?

A I suppose in simple terms, it potentially would mean that the hospital wouldn't move.

Q How did you feel about that at the time?

A Again, disappointed, angry. I suppose-- I mean, that probably became more angry as it went on, and it became-- because I suppose at this point, we still didn't know for certain that there were because initially, a lot of the kind of-- from memory, the things that IOM were highlighting were initially from theatre, and they weren't at that point saying it wasn't anything that couldn't be, kind of, resolved relatively quickly but I think as the days went on, it started to become more and more concerning.

Q IOM put in their report, which says, on their interpretation of the guidance, there was non-compliance. Were you aware that on the IHSL Multiplex side that Mr McKechnie of TÜV SÜD, he did not accept that and maintained that, actually, what had been designed and built fully complied with published guidance. Were you aware of that?

A Not at the time, no.

Q Okay, and subsequently was Mr McKechnie's view communicated to yourself and other members of the of the project team?

A Not that I recall, no.

Q Okay. So, again, if it is not something that you know about, but you were not aware that there was effectively two schools of thought: IOM on the one hand saying, "What has been designed and built does not comply with published guidance," and Mr McKechnie's view saying, actually, in his view, it did comply with published guidance. You were not aware of that?

A I wasn't aware of his view, no.

Q We move slightly forward in the chronology, but after IOM come in, various discussions take place and the next major step would be High Value Change notice 107, which was effectively to make sure that the critical care rooms did comply with published guidance. So there was going to be positive pressure and 10 air changes per hour, is that correct?

A Yes.

Q But I would like to just take one step back from that, really just to try and understand what the clinicians and Infection Prevention and Control specialists are discussing in the period before that definitive decision is made that the hospital is going to switch from balanced and

negative, four air changes per hour, to 10 air changes per hour and positive pressure. Did your clinical colleagues have real concerns about the changes to the pressure regime that was being proposed?

A Yes, they did have concerns, in particular the lead consultant. I mean, when it became apparent that there was an issue, as a project team we-- you know, we went and spoke with the critical care team to try and explain why we thought we were in this position, though we didn't, at that point, fully understand why we were in that position, but we were very clear that we wanted to be there with them and, you know, talking to them and trying and to just kind of-- so that they were aware of where we were and what was going to be happening.

Julie Freeman, who was the lead consultant for critical care, did then go away and, as I recall, read SHTM 03-01 and she then sent me an email outlining some of her concerns. I think they were very understandable concerns because a few years ago we had been told by Infection Control and others it was right to have positive-- negative or balanced pressure, and now we're saying to her, "No, you've got to have positive."

So, on the back of that, I had kind of-- I discussed with Donald Inverarity and we agreed that we needed to meet with the critical care team, which we did do on two successive days, to look at that, and also there was practical issues because there was talk about the positioning of an air handling unit outside part of the critical care unit and what the impact would that be on the actual unit. So we had a meeting over two days.

Q If we just think back, the risk assessment that you do in 2017, the key objective is the cohorting of patients. That is what the clinicians wanted to achieve in a safe way, and you had set out in 2017, refreshed in 2018, that your understanding was that the way to do that was by way of balanced or negative pressure. Again, for those of us that do not necessarily understand the differences between balanced or negative pressure, why did you think for cohorting of infectious patients it should be balanced or negative as opposed to positive?

A I think because, at that time, that was the advice. I mean, anything like that, we would always go to Infection Control about and design advisors, etc. to ask them, and their view at that point was, "Yes, balanced or negative would be the way forward," and I think – and you may be going on

to ask me this – at the meetings that we had with the critical care team, I mean, there was a heavy Infection Control presence at those meetings, which we wanted to have because we wanted the critical care team to hear the viewpoint of Infection Control. Donald Inverarity definitely took the lead at that meeting and his view, and it was documented in the note of the meeting, was that neither solution was wrong.

So from that point of view, and we did-- we spent quite a lot of time, particularly at the meeting on 11 July, talking about the types of patients that would be in critical care, the different scenarios, to allow the critical care team to kind of understand the impacts that would have if we change to positive pressure, and at the end of that they were all comfortable that, yes, that was the way forward and we should follow the guidance.

Q If we just perhaps take the pressure-- if we leave air change rates to one side at the minute, you do the clinical risk assessment in 2017. Nobody in 2019 is looking back and saying, "That is a fundamental catastrophic error because to cohort infectious patients you need to do it only by way of positive pressure." No one is having that type of discussion with you?

A No.

Q And I think you said, really, this is just different ways of trying to achieve the same thing. So, in terms of a safety perspective from your discussions with both clinicians and also with Infection Prevention and Control specialists, should the Inquiry understand from the pressure regime that you can either cohort patients by positive pressure arrangements or by balanced or negative pressure arrangements? Neither is necessarily wrong or unsafe?

A That was certainly what Infection Prevention and Control were saying and I would absolutely take their advice.

Q Because again, it is perhaps issues for Infection Prevention and Control specialists, but to a layperson, it is quite difficult to understand if there is a difference between balance and negative pressure and positive pressure – they are fundamentally trying to achieve different things – how it could be that it did not really matter what pressure regime you had in the space, given how much consideration had been given to this by the clinicians from 2017 forwards. Can you assist the Inquiry with that?

A I mean, I do think you are better to hear from Infection Prevention and Control because they absolutely-- you know, we would always seek their advice and take their advice. So I think they would be much better to explain it.

Q So in terms of the discussions that you are having, balance the negative or positive pressure, neither is necessarily right or wrong, different ways of trying to achieve the same thing. Did all of the discussions really, then, come down to the fact that there were not going to be the 10 air changes per hour set out in the published guidance?

A Yes.

Q And what was the significance of that number 10? Why was that so important?

A I think it was considered to be so important because that was what the guidance said, and that we should, in a brand-new hospital, be complying with guidance.

Q So that is best practice. Ten air changes, best practice, and it is entirely understandable why, in a brand-new hospital, you would want to comply with best practice. Was any consideration given at these meetings, though, to whether four air changes per hour was unsafe? Unsafe as

opposed to simply not complying with best practice?

A Not at those meetings, no.

Q Was there any subsequent consideration of that on the NHS Lothian side?

A I think there-- when-- my recollection was when we were looking-- when the problem was discovered and we were kind of looking, “Well, what will our options be moving forward?” One of the options was, “Well, do we just leave it as it is?” and there was also-- I know there were discussions with IHSL around, could they-- you know, how much could they increase it without doing too much work, and whether or not there was also discussions around whether or not you could do that work when you were occupying the building. So there were lots of options looked at by different people in different meetings.

Q And was a view reached in the NHS Lothian side as to whether four air changes would be safe or unsafe?

A I don’t honestly recall if there was.

Q Okay. One of the reasons I ask is how many air changes were being achieved at the hospital in Sheens?

A As I said before, I'm not an engineer, but my understanding is we didn't have any mechanical ventilation, so there weren't any air changes really being achieved.

Q And in terms of a clinical and Infection Prevention and Control perspective, was Sheens viewed as a safe hospital for children to occupy?

A Yes. It was, yes, and they had-- they did have very low infection rates, so yes.

Q So again, you might not be able to help the Inquiry with it, and it might be for Infection Prevention and Control specialists, but zero air changes at Sheens viewed as a safe hospital, 10 air changes viewed as best practice. Are you able to offer any view, from the discussions you had with your colleagues on 10 and 11 July, as to why a view was formed that four just really was not acceptable?

A I think it was down to we should-- if we're going to have to do some works – and I think people were acknowledging we absolutely would have to do some – that you might-- you know, you should go for the best.

Q Was it quite a simplistic view that, "The guidance says 10 air changes per hour, we know 10 air changes per hour is safe, that is the standard we want to achieve in a

brand-new hospital"?

A Yeah.

Q Thank you, and again, perhaps just to pick up on some of the detail of the discussion we have just had, if I could ask you to have in front of you, please, bundle 13, volume 8, page 593. So bundle 13, volume 8, page 593. So that should be an email from you to Donald Inverarity, high importance, on 11 July 2019.

A Yes.

Q Where you say:

"Hi Donald

Can you phone me regarding Julie's emails as she has also phoned me and she is now feeling very uncomfortable about this and reversing a decision that was made several years ago go in conjunction with Pota"--

Who was Pota?

A So that's Pota Kalima. He was the consultant microbiologist who was based at the children's hospital.

Q Thank you. "And is very keen to meet to discuss further which I think we do need to do as a matter of urgency." Do you see that?

A Yes.

Q So is this, effectively, you recording some of the concerns that have been raised by your clinical

colleagues, including Julie Freeman?

A Yes.

Q And we see that email from Julie Freeman just towards the bottom of the page, on page 593. We will see the header, which is Julie Freeman, an email of 11 July 2019 at 9.37 to a number of individuals including yourself, and then we see the detail over the page on page 594, where she states, "Hi, Janice and Donald, more questions," and then if we could look to the third last bullet point, please. She says, "The SHTM 03-01 for Critical Care has supply ventilation only with the positive pressure in Appendix 1. Is balanced pressure with both supply and extract ventilation not better than that?" Do you see that?

A Mm-hmm.

Q And then if we look to the final or the penultimate paragraph, she says:

"I think it would be helpful to meet to discuss these questions face to face with the same group of people. I know some issues were discussed yesterday but there was a lot of information to take in. I'm not clear on all aspects of on the current situation is and less clear on the planned solution. Inherently cohorting infectious disease in a positive pressure area does not feel right to me."

Do you see that?

A Mm-hmm.

Q So that is a clinician saying she has read the guidance and it does not seem very clear to her, and she inherently thinks the idea of positive pressure just does not feel right. Is that the type of concerns that we discussed a moment ago that have been raised by your clinical colleagues?

A Yeah.

Q But throughout the discussions, did there come a point where clinicians such as Jeane Freeman were satisfied that actually positive pressure and 10 air changes per hour, they were safe?

A Yes.

Q So, did the discussion switch quite quickly-- not necessarily to whether balanced or negative was unsafe but related to whether positive pressure was unsafe?

A Yes. I mean, I think their predominant concern was around the pressure regime. I suppose there was less, probably, understanding about the air changes, but it was about the pressure regime.

Q And in terms of your

clinical colleagues, you tell us within your statement your understanding and their understanding is that there are certain infectious diseases that actually-- balancing negative pressure would be the right way to try to treat those patients. So bronchiolitis or RSV, is that one example?

A I think-- yes, but I think, from recollection, Donald had spoken more about, in a way-- it would be more beneficial for a patient who might be neutropenic who had an infection. So there were very, kind of-- that would be a better scenario.

Q Just to a layperson reading the guidance, reading what is coming back from your clinical colleagues, it seems like even individuals that work in this space, clinicians were not finding this straightforward or an easy issue. Was that your understanding?

A Yes. I mean, no, they weren't finding it easy to-- and I suppose, again, it comes down to-- they're not engineers. They just want an environment that they are told is safe.

Q Did it surprise you, though, that there was not simple, clear published guidance from the NHS that was readily understandable by clinicians and Infection Prevention

and Control professionals as to what you need to do in critical care spaces in terms of pressure regimes and air changes per hour?

A Yes, and I suppose the other (inaudible – 01:32:24) the kind of discussions we're having, I think the SHTM 03-01 is very much written from an adult perspective. There wasn't really-- and there are differences-- you know, you have different types of infections and paediatrics, we, you know-- we cohort patients. Certainly-- albeit it may have changed now following COVID but adult critical cares would, I think, very rarely cohort patients. So there are differences, and I think probably it does need to be more explicit.

Q So, in your view, if there is one improvement that could be made to the guidance, it would really be to, as you say, perhaps take the view that for adult patients, all the guidance is broadly-- single rooms would be the expectation so-- unusual that you are going to have cohorting----

A Yeah.

Q -- and that there really should be some specific consideration of the individual needs of children because it is not as simple as, as I understand you saying, taking the adult guidance and just saying, "Well,

adults (sic) are like small adults. We will just apply the same guidance."

A Yeah.

Q If I could ask you to move on and look within bundle 13, volume 8, to page 554, please. I think I have got you noted as saying that you recollect that there were a series of discussions taking place on 10 and 11 July 2019.

A Yeah.

Q Is this effectively a-- I do not think it is formal minutes, but a note of the discussions that were taking place at this time?

A Yes. It was a summary of the discussions that took place, and they were then sent back out to the clinicians to make sure that everybody was happy with what was noted there.

Q Okay. So we have got the discussions on 10 July, including Julie Freeman, yourself – Janice MacKenzie – and Donald Inverarity, the consultant microbiologist, and then more people are involved in the discussions on the 11th: again, Julie Freeman, yourself – Janice McKenzie – and Donald Inverarity. This time, Pota Kalima, the consultant microbiologist, that I think had been involved from the email chain back in 2017 is also involved in this discussion now?

A Yes.

Q If we just look slightly below the box, it says:

> "We discussed the current proposals for improving the critical care ventilation to ensure that it is compliant with SHTM 03-01 with 10 air changes and 10 Pa positive pressure in the single rooms and 4 bedded bays."

Do you see that?

A Yes.

Q So, again, just reading that note, it seems that very quickly the discussion moves on to simply ensuring that you comply with the guidance, as opposed to looking at whether what is built is unsafe. Is that fair?

A Yes.

Q It continues:

> "We… reviewed the ventilation requirements in the 4 bedded bays to allow you to cohort patients with the same infection."

So, again, is this still looking at this same overall objective you wanted to achieve back in 2017, which is cohorting sick children, effectively?

A Yes.

Q We then see the current proposals that are set out. It then says, "See attached markup for the

drawing space," and then if we look onto page 555, there is a heading, "Compliance with SHTM 03-01." It states:

"Currently the 4 bedded rooms and single rooms have four air changes and this needs to increase to 10 air changes to ensure compliance with SHTM. It was acknowledged that the SHTM was more focused on adult critical care where the patient profile is different and the need to cohort patients was extremely rare."

Do you see that?

A Yeah.

Q So, again, is that the discussion that we have already had which in your view is not as simple as saying let us take the guidance for adults and we will just apply that to children?

A Yes.

Q But if you look within the published guidance SHTM 03-01, it is just a generic table. You do not see any specific guidance provided for spaces to be providing care to children, do you?

A No, you don't. No.

Q So is that an added difficulty? You have already told us it is a difficult situation you are trying to manage, complicated in terms of working out the right science for

Infection Prevention and Control, but was there this added layer that, really, there was not any published guidance whatsoever specifically related to children?

A Yes, and it was something that the clinicians from critical care were concerned about because they obviously knew the profile of patients was different.

Q Thank you. The note continues:

"It was noted that previously a decision had been made to derogate from the SHTM for the 4 bedded areas to allow patients to be cohorted with the same airborne infection and following consultation with the clinical team and IPCT at the time the decision was made that these areas should be balanced or slightly negative. The SHTM states that both the 4 bedded areas and single rooms should have 10 air changes and 10 Pa positive pressure."

Do you see that?

A Yes.

Q It states that there is a decision made to derogate. My understanding from the discussions that we had previously in your evidence is that you did not think that

this was going to be a derogation.

A No, I didn't think it was going to be a derogation. I'm not actually quite-- I don't know why it specifically says that in----

Q Because, again, if we look-- if we think back to the risk assessments 2017, refreshed and 2018, the statement there is it must be balanced or negative to comply with SHTM 03-01. So, why do we see reference there to a derogation? Can you remember who was talking about there being an agreed derogation at this point?

A No, I don't remember.

Q But does that accord with your understanding? Did you think that there had been an agreed derogation by NHS Lothian?

A No.

Q Thank you. We skip the next bullet point and then look to the fourth bullet point, it says:

"IPCT view was that you could cohort patients with the same air-borne infection in the 4 bedded areas that were 10 air changes and 10 Pa and that there is no reason this would result in increased spread of infection. A design of balanced or slightly negative pressure approaches the issue of spread of infection from a cohort from a different direction but it

was agreed that neither approach increases the risk of infection spread but the SHTM 03-01 compliant design as the additional benefit for neutropenic patients who could be in single rooms at 10 Pa positive pressure."

Do you see that?

A Yes.

Q And, again, is that really just what we have discussed previously, which is-- effectively, the discussion is boiled down to saying you can have an option that is balanced or negative, or you can have an option that is positive pressure? They are just different ways of trying to achieve the same thing.

A Yes.

Q Again, just from a clinical perspective, should the Inquiry understand that the design, which had balanced our negative pressure, was not in your view, clinically unsafe in terms of cohorting patients?

A Yes.

Q Thank you.

A If we look to the next bullet point, it states:

"It was acknowledged that the design of the Unit provided additional control measures to prevent the spread of infection and the barriers to transmission."

And there is then a range of things. I would not read them all out but things like bed space. Why was the view taken that balancing negative pressure, four air changes per hour, and all these additional control measures-- why would they not have been sufficient as opposed to flipping to positive pressure and 10 air changes per hour?

A I mean, you'll always have additional control measures in relation to infection control. It isn't all about ventilation. There are a number of things that you would also do to prevent infection or prevent the spread of infection. Sorry, I've forgotten what the rest of your----

Q It was really just trying to explore why all of these additional control measures would not have been sufficient together with four air changes per hour and balanced or negative pressure to safely manage children in the spaces, but I think I took your answer to say, "Well, yes, there might be these additional control measures but these are really just control measures that would be in place regardless of the particular ventilation arrangements." Is that correct?

A Yes.

Q Then look over the page,

please, to page 556. It is the first full bullet point there beginning, "We discussed."

A Yeah.

Q It states:

"We discussed a number of different patient groups and scenarios in relation to the use of the Isolation rooms, Single rooms and 4 bedded bays and in light of these discussions and the points above all agreed that the SHTM 03-01 was a safe design for ventilation within the Paediatric Critical Care Unit in conjunction with the design of the unit and good practice in relation to infection control measures which all work together as a package to achieve best outcome for patients."

Do you see that?

A Yes.

Q So, again, just so I am understanding things, detailed meeting taking place where you have clinicians, Infection Prevention and Control, and Estates, all the ideas fully ventilated, and the consensus view is that the ventilation parameters set out within SHTM 03-01 for critical care spaces would be safe for the new hospital. Is that correct?

A Yes.

Q Thank you. Lord Brodie, I am conscious that we are just after 11.30, and I am going to move on to something different. So now maybe a convenient break. I appreciate that Ms MacKenzie has been giving evidence for some time.

THE CHAIR: We will take a break, which will be an opportunity for people to have a coffee and try and be back at ten to twelve.

(Short break)

Q Ms MacKenzie, just before the break, we were discussing the meeting on 10 and 11 July, and effectively the collective decision made that it would be safe to have positive pressure and 10 air changes per hour. The Inquiry has heard evidence that that is exactly what was then designed and built for the RHCYP hospital. Should the Inquiry understand, then, from your perspective as a clinician, that the hospital will provide a suitable environment for the delivery of safe and effective care now that it has that ventilation regime?

A Yes.

Q In the period we have just been discussing, really the period of 2019, were you aware of any emerging potential issues with the

hospital in Glasgow, the Queen Elizabeth University Hospital?

A I was aware. I mean, there was-- I was aware initially just through press coverage.

Q And in terms of your knowledge, is that simply through the press, or is this something that would be discussed internally within the NHS between health boards?

A I recall that certainly there was contact made with Glasgow to try and get a kind of a bit of an understanding of what some of the issues were because obviously we were very aware that issues were being reported in the press, but, you know, how accurate they were or whatever-- So yes, I think we were trying to find out what some of the issues were.

Q And in terms of that contact, is that contact you are making directly with individuals working at the Queen Elizabeth University Hospital, or was that others?

A It wasn't me. So I know that certainly Ian Graham did and Ronnie Henderson did as well.

Q Okay, and can you recall what, if anything, were they telling you about potential issues at the Queen Elizabeth University Hospital at this time, 2019?

A I think from memory it was kind of fairly vague as to what actually-- I mean, yes, we were aware that there were issues and potential issues in relation to pigeons and things, because I do remember, in one of the walkabouts we had with the IPC team, going into the plant rooms and specifically looking at that to make sure that that wasn't an issue for us. So, we were certainly aware of that, and we were aware that there were issues with water, but again, I don't think we at that time really knew a lot of the detail.

Q It sounds like, from the evidence you have given, it was a fairly high-level understanding but relatively vague in terms of the knowledge that you specifically had in relation to any issues relating to the Queen Elizabeth University Hospital.

A Yes. I mean, we did certainly as a commissioning team, and I can't-- I think it might have been 2018, we did go and visit the hospital when it was operational, but that was very much to talk about how they had commissioned it to become operational and we didn't discuss anything related to more technical things.

Q And as I understand it, you say that you are reading some press reports about potential issues at the Queen Elizabeth University Hospital. You are aware of some of your colleagues having discussions with individuals that are working at the Queen Elizabeth University Hospital, but those press reports, those discussions your colleagues are having, are they impacting on any of the decision-making that NHS Lothian has in relation to what to do with the ventilation system when the IOM reports come in?

A I don't know that they were specifically at that time. I don't recall that we were maybe any clearer on what the actual issues were.

Q So should the Inquiry understand that this is effectively a background issue, but in terms of the decision-making that the Project team are making, any issues at the Queen Elizabeth University Hospital would not be front and centre in your mind in terms of decisions that you are making for the critical care rooms at the RHCYP?

A From my recollection, yes. I think that was the case from my perspective.

Q Thank you. That is everything I want to ask you specifically about the Project and the timeline. I think the final thing I would

like to ask you about is really just some reflections that you may have, and also to discuss some things that have happened after the Project. I appreciate that you have retired but given all of the knowledge you have had throughout your career, the Inquiry would be interested in any views that you have on certain developments. Now, one of those developments is the creation of a body called NHS Scotland Assure. Do you have any awareness of the work of NHS Scotland Assure?

A No. I mean, I'm aware that a body has been formed, but I don't have any knowledge of it, no.

Q Okay. The Inquiry has heard some evidence that NHS Scotland Assure is going to be a new centre of excellence for the built environment in relation to healthcare settings, and if I could just ask you to have in front of you, please, within bundle 9-- And if we could look to page 4, please. This is a document that was produced by NHS National Services Scotland, and it was called a Target Operating Model. So, bundle 9, page 4. Bundle 9, page 4. This is a document called the Target Operating Model for the New Centre of Excellence, and if I could ask you to look on to page 15 within the bundle,

please.

So, page 15, the document setting out, effectively, whenever this body was being created, what is the current state, what is happening and what would the future be? And if we look to the current state, the final point that is noted is to say that one of the current ways of working was silos between professionals. Do you see that?

A Yes.

Q Given the guidance that we have looked at, including SHFN, which sets out the whole partnership approach, what was your understanding whenever you were working in the NHS in general and on this project in particular that one of the main problems with the built environment was professionals just working in silo and not speaking to each other?

A I suppose, in the professionals that I was working, that wouldn't be my experience, so I would say that we always worked very closely with the IPC team, with our estates colleagues, just in general, everyday kind of working. I think project-specific, I think, again, we had very good partnership working with the IPC and clinicians from my perspective. Yes, I would

acknowledge less so with the more technical teams and engineers, but I think it's about what that clinical input is into these, and I think particularly if you're looking at clinicians coming to meetings that are very technical and, actually, what is the value of their input? So I think we need to be clear about that and I think it was challenging enough at times for clinicians to have the time to be involved in the design and room layouts of departments. It wasn't that they didn't want to be, but it was very much-- They're there as clinicians to deliver care, so I think it has to be really clear if clinicians are going to be involved in much more technical discussions. I think you probably would have to ensure that they had some form of additional training, but they're not going to be engineers, much as we wouldn't expect an engineer to be involved in clinical decision-making.

Q Maybe just to explore that a little, if we take the project as an example, it is a hospital whereby there is one specific set of pressure regimes and air changes for critical care. There is then a change that something different has to happen, different pressure regime, different air changes, the hospital does not open and there

are millions of pounds of public money that are spent. Would one of your reflections be that the problem was or was not professionals working in silo in the project?

A I think that's quite a difficult question to answer. I think it has become obvious throughout all of this and the various reviews that were undertaken, you know, the initial problem seemed to have occurred because of an error in the environmental matrix, and I don't think-- That wasn't down to professionals not working together and working in silos, so I don't know if that would have changed over the course of the Project. I don't know that it would because clinicians wouldn't have known what the right air changes were.

Q Because we have looked at a lot of documents whereby you are either working with or copying in Mr Henderson from estates, colleagues from Infection Prevention and Control, so would it be fair to assume that that really was not the problem in terms of the NHSL side, individuals working in silo, because the documentation suggests the opposite?

A Yes, I mean, I think we did, and the fact that we were all based in the same office made it

easier, and I think the other thing is we were very fortunate to have dedicated support of an IPC nurse, and we know from going to visit other projects that wasn't always the case, so that was a great benefit. Yes, she was also supporting some other projects, but this by far was the biggest and she spent a lot of time with us, so that was good.

Q And in terms of solutions, do you think simply taking clinicians and Infection Prevention and Control specialists and making them attend meetings with engineers about highly technical matters, is that how to solve these types of problems?

A I don't think it is. I think it's been very clear about what your brief is, what you want to deliver from a clinical perspective. I think if you're clear about that and there is guidance there, then that's what the design team should be doing and should be coming back to clinical teams if they have a query, and that happened on quite a few occasions.

Q In very simple terms, if you had been at a meeting where two engineers were saying, "It has to be 10 air changes or four air changes to comply with published guidance," as a clinician, would you have had anything to contribute to that discussion?

A No, I wouldn't have had anything to contribute because at that point-- I suppose, yes, I would have had something to contribute if one engineer was saying, "The guidance says 10 air changes," and another engineer said, "No, it says four," I would then be wanting to know what's right and then I would go and seek advice.

Q One issue I would be interested in your views in is Mr McKechnie from TÜV SÜD. He will be coming later this week to give evidence and, as I understand matters from his witness statement, his position is whenever he was designing the solution, he was not really aware of the particular reasoning behind why certain spaces had to be set up in a certain way. So, for example, cohorting of patients, that was not something that he was specifically aware of. Do you remember having any discussions directly with Mr McKechnie, or TÜV SÜD, who were ultimately going to do the design work?

A Well, I mean, I suppose when we had the meeting about the need to cohort patients, he was at the meeting and we did explain we wanted to-- and why we wanted to do it, so I would say we did tell him.

Q So from your perspective

this, again, is not a scenario whereby all the clinicians and Infection Prevention and Control people knew exactly what they wanted to do with the space, and that is not communicated to Project Co and their subcontractors on the other side. That is not one of the problems on the project?

A No, and I think, you know, when we were having as well the kind of design meetings around layouts and things, the Multiplex design manager was there and she very much acted as a conduit. So, if anybody was raising a particular issue that was more of a technical issue, she would take that away back to the Multiplex team and their subcontractors, and then come back to us with a response.

Q Thank you. Now, if we go back to bundle 9, page 15, we see some of the suggestions for the future state. So, this is for what became NHS Scotland Assure. The first point states, "QHBE jointly sign off documents on builds and major refurbishments at key stages in the lifecycle." Do you see that?

A Mm-hmm.

Q Do you think having independent, external scrutiny would have been-- would be beneficial for these types of projects? Projects like the RHCYP?

A Yeah, I do.

Q In terms of that external scrutiny, do you think that would have to require a joint sign-off as opposed to someone simply coming in and doing a lighter touch check on what was happening?

A Yeah, I mean, I think it would need to be a joint sign-off. I suppose my immediate thought would be around the sheer volume of documents, potentially, that they would have to review if I look at the documents that we had to review, so I suppose it would be about ensuring that they were resourced to do that, and they would have to be scrutinised in the minutiae of detail.

Q Thank you. Then if we look still in the future state, the final point, it says, "Provide a structured forum that will enable construction professionals and clinical colleagues to work in an integrated manner." Do you see that?

A Yes.

Q Again, correct me if I am wrong, but my understanding from the evidence you have given is that that would not really be anything new because that is exactly what had taken place on the RHCYP project. Is that

correct?

A Yes. I mean, we did, yes.

Q If we look on within this bundle 9 to page 20, please, you will see that one of the changes was going to be the joint sign-off of the projects, but if we look to the left-hand side, just to the left of the black box saying "Inspection," the second paragraph begins, "The QHBE will not." Do you see that?

A Mm-hmm.

Q So it says, "The QHBE will not operate in an inspection or enforcer capacity." Do you see that?

A Mm-hmm.

Q So whatever this body is going to be, it is not going to be going in and doing physical inspections on projects, and it is not going to have any regulatory or enforcement role. Do you see any difficulties with that type of approach?

A I mean, it's obviously difficult just looking at it for the first time, but my initial thought would be if, potentially, they're saying they're going to be signing off on documents and things, it would be difficult to know how they were going to do that if they weren't going to inspect.

Q Thank you. The next document I would ask you to have in front of you, please, it is in bundle 1 at page 2263. Bundle 1, page 2263. This is a revised iteration of SHTM 03-01, so it came in in February 2022, I think maybe after you had retired. Is that correct?

A Several years after, yeah.

Q Thank you. If I could ask you to look to page 2286, please. You see towards the bottom of the page there is a bold heading, "Ventilation Safety Group." Do you see that?

A Yes.

Q So, one of the new concepts that was introduced in SHTM 03-01, the 2022 version, was a Ventilation Safety Group. I will just read out what the Ventilation Safety Group is. So, it says:

> "The management of the ventilation systems of a healthcare provider should be overseen by a Ventilation Safety Group. The VSG should have clearly defined roles and responsibilities, be part of a healthcare organisation's governance structure and report to the 'Designated Person' at board level. It should be led and chaired by a person who has appropriate management responsibility, knowledge,

competence, and experience.

"4.5: The VSG should be a multidisciplinary group and should typically comprise an authorising engineer; an Infection Prevention and Control person; the Authorised Person(s) for ventilation services; estates; clinicians and specialist departments; personnel from the finance department; other stakeholders; and co-opted expertise."

Do you see that? So, it is effectively for any key decision relating to ventilation, there has to be this multidisciplinary team. This is a formalised group, but did that already exist prior to this guidance, in terms of the partnership approach under SHFN that we have looked at?

A I suppose it probably partially existed. I mean, it wasn't specifically around ventilation, but yes.

Q Do you think the ventilation safety group as a concept is an improvement on what there was before?

A I would hope it is an improvement, yes. I mean, because I don't kind of know how it's operating or anything like that, it's difficult to comment on, but you would hope that it would be a forum where if there were any ventilation issues, that they would be discussed. I assume it is something thing that is to be in place irrespective of whether or not it's about a new project, that it's a general kind of thing. So, if there are ventilation issues in an existing hospital, it would go to this kind of group, which I would see as a positive thing.

Q Thank you. I think you have already addressed in your evidence some areas where you think there would be potential areas for improvement, and some of the problems that you think occurred on the project. So, you have talked about what you called "the spreadsheet error," and you think, for a clinician, that would have been very difficult to spot that. You have said that you think it would be helpful to have improved guidance, particularly focused on cohorting of children that could be used by clinicians and Infection Prevention and Control personnel. You have obviously worked on the project, had a lot of time to reflect on it. Are there any other areas that you think for these types of projects which can be very difficult, often once in a career for individuals working on them, that would be beneficial to try to avoid some of the mistakes and issues that resulted in the Public Inquiry being set

up?

A I think probably there's something about-- I mean, you mentioned the fact that Mr McKechnie's view was that the design was compliant, so for critical care, so obviously there, you know, there's a disconnect between the two. So, something around how you would prevent that happening in the future, and the only kind of thing that I can think of is it's almost like you need to have a kind of a checklist that says, "For this area this is air changes, this is the pressure," and the design team then have to sign that off, and it's very, very, very explicit and therefore then you would hope that error wouldn't happen.

Q In many ways, if what you are talking about, that checklist, if that had all been agreed at the time the contract is signed, do you think that would have avoided some of the issues that followed later on in the project?

A Yeah. I think yes, it would have done.

Q Thank you. Ms MacKenzie, I do not have any further questions but thank you for answering my questions. I appreciate this is now the third time you have come to give evidence, so thank you. My Lord, I do not have any further questions.

THE CHAIR: Thank you, Mr MacGregor. I have no questions, Ms MacKenzie, but shall we take 10 or 15 minutes just to check that none of the legal representatives wish further questions to be asked, or to indeed ask them themselves? So, Ms MacKenzie, if I can ask you to return to the witness room, and I would hope that we can find out whether there will be any more questions in about 15 minutes. Thank you.

THE WITNESS: Thank you.

(Short break)

THE CHAIR: No questions?

MR MACGREGOR: No questions, my Lord.

THE CHAIR: There will be no further questions, Ms MacKenzie, and therefore you are free to go but, before you leave us, can I just repeat my thanks for your attendance, your previous attendance and all the work that is involved in preparing a witness statement. I appreciate it is significant, but you have provided significant assistance to the Inquiry and for that can I say thank you, but you are now free to go.

THE WITNESS: Thank you very much.

(The witness withdrew)

THE CHAIR: The next witness is----

MR MACGREGOR: The next witness is Mr Graeme Greer.

THE CHAIR: Mr Greer. (After a pause) Good afternoon, Mr Greer.

THE WITNESS: Good afternoon.

THE CHAIR: And, as you understand, you are about to be asked some questions by Mr MacGregor, who is sitting opposite you, but first I understand you are happy to take the oath.

THE WITNESS: Yes.

THE CHAIR: If you would just, remaining seated, if you would raise your right hand and repeat these words after me.

Mr Graeme Greer

Sworn

THE CHAIR: Thank you very much, Mr Greer. We will plan to break for lunch at about one o'clock, and I think we will probably up to ask you to return in the afternoon. Can I ask you maybe to speak a little louder than you would in normal conversation? I am hard of hearing. The microphone should help but, as I say, maybe a little slower, a little louder than you would normally speak.

THE WITNESS: Yes, no problem.

THE CHAIR: Thank you. Mr MacGregor?

Questioned by Mr MacGregor

Q Thank you. You are Graeme Greer, is that correct?

A That's correct, yes.

Q And you have provided two witness statements to the Inquiry for the purposes of these hearings, is that right?

A Yeah.

Q And just for the benefit of core participants, Mr Greer's first statement is at pages 3 to 41 of volume 2 of the witness statements, and then the second statement is at pages 3 to 12 of volume 3 of the witness statements. Mr Greer, the contents of those statements will form part of your evidence to the Inquiry, and you are also going to be asked some questions by me today. If at any point you want to refer to either of your witness statements, please just do let me know. This is the second time that you have given evidence to the Inquiry, and we covered your qualifications and experience at the

previous set of hearings, but really just by way of a brief recap on your qualifications and career, you are a qualified civil engineer, is that right?

A That's right, yes.

Q And you worked for Mott MacDonald from 2011 onwards?

A Yes.

Q Is that right? And since May 2022, you have worked for NHS Lothian?

A Yes.

Q And in terms of your qualifications as an engineer, you are a qualified civil engineer, is that right?

A Yes, chartered civil engineer, yeah.

Q As opposed to being a building services engineer or an electrical engineer? Thank you, and during your time at Mott MacDonald, you were engaged as the lead-- Mott MacDonald were engaged as the lead technical advisors to NHS Lothian, is that right?

A Yeah, the lead technical advisor and project managers for the Edinburgh project.

Q Thank you, and in terms of your role with Mott MacDonald, you described that as being internal project manager and lead technical advisor, is that right?

A Yeah, I had-- there was

two main roles. One was the-- I'd say the internal project management function, reporting to the project director, and then from a project perspective, I led the project management team and led the technical team.

Q So although you are a civil engineer, should we understand that you were really doing a management function as opposed to doing any of the granular level technical work on the project?

A Yes, absolutely, yes.

Q Thank you. I am going to begin by just asking you some general introductory questions, particularly about Mott MacDonald's involvement in the project, your involvement in the project, and then after that really look at a timeline of just some documents in terms of the project itself. I really break things up into sort of four stages of the project, just so that you know we are going to cover each of them sequentially. So firstly, the period from financial close up until Settlement Agreement 1, that will be chunk one. Then to look at Settlement Agreement 1 itself, whenever IOM come in and do their reporting, and then finally to look at High Value Change notice 107 and the period thereafter until the hospital opens. But if I could just begin,

obviously, we have covered previously in your evidence the role of Mott MacDonald up to the point that the contract signed, and the Inquiry is not really interested in the specific contractual arrangements between Mott MacDonald and NHS Lothian. It is really to try and understand just exactly what was happening in the ground. So just, in your own words, can you explain what are Mott MacDonald doing in the period from the point where the contract is signed, really up to Settlement Agreement 1?

A So, probably categorise it into two main categories. One was the project management team, and then one was the support team. So the project management team was myself, Rob Brown, Kamil and Kelly, and the project management team, and I guess in addition to that there's a support team now. The principal support team was David Stillie, from an architectural perspective, and David worked closely with Janice and the clinical team in terms of the architectural development and worked with HLM very closely. Beyond that, there was a broader team, so there would have been mechanical, electrical, civil structural, acoustics, aviation, geotechnical. As I say, a broad range of services beyond that

where we would be reviewing the Project Co's design.

Q Okay, so if we see individuals being copied into emails, and we see Kamil Kolodziejczyk, is he on the project management side, effectively, working with you, as opposed to being on the technical side, working at the granular level of detail?

A Yes, absolutely. Yeah.

Q And is that the same for Kelly Bain, if we see her copied into things?

A Yeah.

Q She is dealing-- again, working with you in the project management side, as opposed to dealing with the granular technical level of detail.

A Yes.

Q And in terms of-- we are talking about mechanical and electrical engineering, would it be Colin Macrae that would be dealing with matters on Mott MacDonald's behalf?

A Yes. I think there was, kind of, three key folk involved: Colin Macrae, largely from a mechanical perspective; Willie Stevenson from an electrical; and further into the construction phase Douglas Anderson joined the team as well, and he had an electrical background but he had

contracted experience as well. So that was very helpful when we were looking at some of the site development.

Q And you tell us in your witness statements and also in the evidence that you have already given to the Inquiry, Mott MacDonald's role-- despite being called lead technical advisor, they were not a shadow design team. Is that right?

A No.

Q And they were not employed to do some form of technical audit of any of the ventilation solutions for the project?

A No. They describe it as a sample review, and the reason for that is down to the risk allocation in the contract, and NHS Lothian had employed Project Co to design, build, finance and maintain the hospital over a 25-year concession period, and therefore the onus was on Project Co to do the design and make sure it was compliant, and Mott's were supporting NHS Lothian and doing sample reviews. There had been a number of issues at the RIE which meant Mott MacDonald's role was-- compared to the other NPDs, it was slightly more-- because that was a choice but it was always done in the context of the overall risk allocation of the contract.

Q Okay, so you say it is a

sample approach that has been done. It is not a sort of audit of absolutely everything, but should the Inquiry also understand that, in addition to that, Mott MacDonald would provide other ad hoc advice as and when required?

A Yes.

Q So, just in terms of how that would work, I understand the sampling approach during the RDD process. How would NHS Lothian know when they were potentially instructing this ad hoc advice? How did that arrangement work?

A I think the biggest element, I think, was probably midway through the construction phase. There was more issues being uncovered from a design perspective. A lot of the issues were appearing on site at that point, so Mott MacDonald and NHS Lothian agreed to do some site visit reports. So there was effectively an instruction to increase scope via site inspection reports or non-intrusive surveys to try and identify issues as they were appearing on site. So, by that point, the site had kind of overtaken some of the design reviews, so that was seen as the best way to try and mitigate any issues we were uncovering.

Q And just in terms of understanding the ad hoc advice, I am

interested in your views in terms of what a technical advisor would be doing, but if we take just another example, legal advice. If we look through the various bundles of papers, MacRoberts were NHS Lothian's legal advisors. So, if they were asked to advise on a particular discrete issue – we will see a note or a memo that would be provided with a, sort of, crisp capturing of the legal advice that was provided – is that how it worked in terms of the technical advice of very simple instruction with a very simple answer back, or was it a more fluid process?

A I think there was occasions where there was specifics. So, there was some pump issue later on where there was specific reports done to again try and mitigate some of the issues we'd uncovered. So that was a specific report that was done but generally, a lot of the Mott MacDonald team and the NHS Lothian team worked very closely together. So a lot of the advice was, I guess-- in thinking about the review procedure, an item would be sent to the project management team, the project management team would send that out to the Mott Macdonald technical team and the NHS Lothian technical team. The comments would then be collated

and then there would be a discussion about the actual final questions that were issued. So there was a very collaborative approach in terms of developing the responses.

Q In terms of that collaborative approach, do you think that there was perhaps a blurring of lines as to just exactly what Mott MacDonald was expected to do?

A Not in the context of the overall project risk allocation, no. Again, these were sample reviews done in the context that Project Co were the designers and had the responsibility of ensuring compliance. This was just an extra set of eyes. I think, as I say, if you compare it to some of the other NPDs, I wasn't heavily involved in other NPDs, but I understand there was a much lighter approach undertaken in terms of the review procedure there compared to the approach that Lothian adopted. Again, back to the RIE issues, they were concerned and wanted to at least have some eyes on the Project Co design.

Q I think you were very clear in your own mind about what Mott McDonald's role was in terms of light touch sampling approach for the reasons you give, that all the design risk is being pushed onto Project Co.

Do you think that that relatively limited role for Mott MacDonald was understood by the people that were working the project from the NHS Lothian side – so, really, the project managers, Brian Currie, Ronald Henderson – or do you think they thought that you were providing much more advice than you thought you were providing?

A No. I think Brian and I discussed it extensively in the construction phase and it was very clear the role we were doing, and we didn't want to confuse the risk allocation and the contract by doing anything more.

Q One thing I would be interested in your views on is: obviously you say there is this light-touch sampling approach but if the whole ethos behind the NPD structure is to push all the design risk onto Project Company, why do a sampling approach at all?

A I think it's back to that RIE issues. It was a choice that Lothian made. As I say, compared to the other NPDs there was more scope. As I say, I think the other NPDs was quite often done by the estate's team themselves with maybe a specialist input like energy modelling, which they wouldn't be able to do in house. So I

think there was just a conscious choice to just do more than the basic but not confuse it overall.

Q And how did Mott MacDonald work out what samples they were going to look at? You tell us in your witness statement that there are vast amounts of information that are coming in. So, in terms of trying to work out what is and is not important for that sample review, how did that process work?

A I didn't do any of the reviews myself, so I didn't-- it would be better for the actual technical teams who did that to decide that. I think they would look at
the-- any major issues they were trying to identify from the reviews that we're looking at.

Q So, just to take one example, there is I think a change that you are aware of that you address within your witness statement, the Guidance Note 15, which was not picked up on-- certainly by anyone on the NHS Lothian side until much later in the project. Are you aware of that?

A Yes.

Q So that was not something that was spotted by the sample review process, was it?

A No. After July 19, I think it was Kelly that spotted that change

just when we were looking at the post-July delay. So, yeah, it wasn't something we picked up at the time.

Q And, again, I appreciate that you are not the person doing that technical review, but the Inquiry has looked at various iterations of the environmental matrix moving between the parties. Quite often, things are marked up in red. Is that your understanding of how Project Company would alert NHS Lothian to changes that they are making to the travelling draft of the Environmental Matrix?

A Yeah, there was a general agreement that that would happen. As I say, the Guidance Note 15 issue obviously wasn't flagged red in terms of that critical care change, but that was done in Excel. So there wasn't a way of automatically changing it, so I could understand if everything wasn't flagged when they did it, but-- just an error in terms of that flagging because there was other changes in that, and the guidance note changes-- There were other changes that were flagged red, but just that one wasn't, but there wasn't-- It wasn't like a Word document where you can do the document comparison or try and change it in Excel. It was harder to do that; it had to be a manual changing of

the text.

Q So, for example, on a Word document, you could do something like a delta view to make it perfectly clear what the changes were, but there was not anything like that done on the Excel that was coming in?

A No. As I say, I didn't do the changes myself in terms of-- It was obviously Project Co who did the highlighting, but I would understand they would have to have done that manually as opposed to an automatic track change.

Q But, again, just so I can understand things correctly, your understanding would be that there would not be any expectation on Mott MacDonald's behalf to do an audit of absolutely every change that is coming in because, ultimately, the risk for whatever that change is sits with Project Co?

A Yeah. I think if it was a full audit, it could in effect be taking on design responsibility for that, and we weren't set up to do that.

Q One of the issues that crops up is obviously the change that is made to Guidance Note 15. I am not asking for any technical observations on that, but there is the change made from, effectively, 10 air changes for critical care rooms to 10

air changes for isolation rooms and critical care rooms. Are you aware of that?

A Yes.

Q You obviously became aware of that later in the project. Did you try and work back as to why that had come in and the significance of it? Did you get anywhere with that interrogation?

A Yeah. In terms of meeting notes or emails, I couldn't find anything where we discussed it. In the procurement phase, there was a change to guidance note 15 related to humidification, and in that instance, there was-- an RFI was issued to say we want to change the guidance note. So an RFI was issued that was then discussed and the changes were agreed, but I couldn't find anything along those lines for this guidance note.

Q And, again, you were very clear in your statement in terms of saying, "Well, the Environmental Matrix, that is a Project Co document that is to be developed." You will be aware that the Project Company's position is really quite different to that. They say that Environmental Matrix that was given to them was a fixed brief that they had to comply with. Are you aware of that?

A Yes.

Q It is just-- perhaps one thing that would be helpful if you could address the Inquiry on is: if your view is wrong and Project Co's view is right, how could Project Co be making changes to the guidance note if it is a fixed brief?

A Yeah, I would agree with that. I think it's a wee bit contradictory and, as I say, later on, about July 16, a delegation was submitted, so it was WW14, WW15. So that was seeking relief from compliance with SHTM 03-01. So, I think there was an understanding but, as I say, there was a bit of a confused picture because in some cases Project Co was saying it was asked per the references or it was signed off through the review procedure, but in other instances they were issuing changes to the compliance, so it wasn't consistent.

Q Thank you. One of the other documents that crops up a lot in terms of aspects of the Inquiry is published guidance, including SHTM 03-01. Presumably you will be aware of that now, even if you weren't aware of it at the time.

A No.

Q I do not want to get into the specifics of what that guidance says, but was your understanding that

Mott MacDonald were responsible for advising NHS Lothian in terms of whether there would be compliance with that published guidance?

A They'd certainly be part of the review. So, yeah, if there was readily apparent, clearly obvious issues, then that would get flagged in terms of compliance with 03-01, that would get flagged by the team, I would assume, yeah.

Q And there came a point in the project-- we will look at the detail of this this afternoon but there came a point in the project where there is effectively a standoff between NHS Lothian on one side and Project Co on the other. In relation to the pressure regimes for around about 20 rooms that are going to be in the hospital, one side says it has to be balanced or negative to comply with SHTM 03-01, the other side says it has to be positive to comply with SHTM 03-01. Is that something that Mott MacDonald are giving NHS Lothian this type of ad hoc advice that we have talked about? Is that one example?

A Yeah, so just the context of that is, as I say, the WW14 were issued. WW15, that was about July 16. That was a single-bedroom request for the derogation but the conversation then developed into

what's happening in a multi-bedroom. I understand Project Co's position was that the 20-- there's 20 multi-bedrooms in the facility. In Project Co's position the 20 multi-bedroom rooms were classified as a general ward. That general ward, that's in Appendix 1, Table A1 of 03-01, and that general ward criteria had six air changes but it was-- I don't think it was positive. I think it was silent so that the (inaudible – 02:59:11) is silent on pressure regime as opposed to positive. NHS Lothian and Mott MacDonald looked at that initially, and I think the first view was it should be the same as a single bedroom, so six air changes, negative or balanced. Project Co said the single bedroom didn't apply; it was a general award that applied. So we looked further, and it was clause 2.60 of the SHTM. What we looked at was, it said, "For specialist ventilation requirements, refer to the ADB sheets." So, I think it was Kelly asked the NHS Lothian team if we could get the ADB sheets for the 20 multi-bedded rooms, and we got-- The multi-bedded room ADB sheet was provided and when we looked at the-- So that's from the template ADB sheets. When that was provided, that had six air changes, negative or balanced, and that was the essence of

the disagreement in terms of air changes and pressure regime.

Q But should the Inquiry understand that whenever this dispute kicks off between the two parties, Mott MacDonald are giving NHS Lothian specific advice in terms of what the requirements of SHTM 03-01 are?

A Yes.

Q And they are giving that, presumably, at a relatively early stage. There then comes a point where there is going to be a potential litigation about this issue. Is Mott MacDonald still involved at that stage?

A Yes.

Q Because you provide an affidavit that could potentially be used in the court litigation. Is that right?

A Yes, that's right.

Q And then there is an agreement that's been documented within Settlement Agreement 1. Is that correct?

A That's right, yeah.

Q And should the Inquiry understand that in terms of the Settlement Agreement 1, Mott MacDonald is advising in terms of whether the solution set out within that document complies with SHTM 03-01?

A In terms of item 7, it was quite specific. I think, generally speaking, we discussed it with Lothian

and there was a lot of detail later on about this, but there was a-- I was very concerned about the risk transfer in terms of Settlement Agreement 1, so it appeared to me from the drafting that I saw from the technical perspective that it was altering the risk significantly from Project Co being responsible to NHS Lothian being responsible. So we discussed potential mitigation measures, so at that point, we were into a speedy RDD process, so we only had, I think it was five days to do the review. The team had five days to do a review instead of the usual 15. So we looked at option one: we just carry on as we were. Option two was based on what we thought was the revised risk allocation – increase Mott's scope to try and give additional assurance – or the third option was actually Mott McDonald do the design themselves and take the design liability, but at that point there wasn't the time or appetite. The commercial situation, the Project, was in serious distress by that point, and there wasn't the appetite to do options two or three, so we carried on with option one and did the best we could.

Q We will come on and maybe look at that in a bit more detail because I think it maybe helps to look at the detail, but should the Inquiry

understand, when we get to the point of Settlement Agreement 1 and there is a technical schedule that effectively encapsulates the critical care rooms, the 20 rooms that are in dispute, they are going to have positive pressure and 10 air changes per hour, is the wording in there drafted by Mott MacDonald?

A It varied. So in terms of item 7, again, it would have been a collaborative approach between MacRoberts, ourselves and the NHS Lothian team, and generally it would have, again, gone through-- Similar to the RDD, it would have gone through myself and the project management team in terms of managing the flow of that information, and yes, we would have been involved in the drafting.

Q And in terms of advice, are Mott MacDonald advising NHS Lothian that what is encapsulated within that technical schedule of Settlement Agreement 1, that complies with SHTM 03-01?

A Not specifically, no. Again, we said we couldn't actually provide that advice, but back to that email I was referring to, we offered-- I sent an email to Brian saying we were really concerned about the change in risk allocation and Mott MacDonald wasn't in a position to take that design

responsibility and we didn't think the Project team was either. So Brian escalated that to the NHS Lothian execs and I think we got comfort at that point that the risk allocation wasn't changing, so things settled down a bit at that point. But latterly we saw further documents where, again, it looked like the same principle applied, and that's when I started to offer additional risk measures in terms of offering more detailed reviews of the design to give more comfort, or actually doing the design ourselves to give the full comfort.

Q Okay. And again, Mr Greer, to be clear, it is not part of the Inquiry's task to work out any legal liabilities on any party, so I am not going to ask you any questions today about what a contract means or whether anyone has any liability. I am simply trying to understand practically what happens, but am I right in thinking that Mott MacDonald are involved in the drafting of the technical schedule to Settlement Agreement 1? Is that right?

A Yes.

Q But your view would be that although Mott MacDonald are involved in the drafting, they are not taking responsibility for the design element that is encapsulated within the

technical schedule. Is that right?

A Yeah, absolutely.

Q And your position is that is because you have already told Brian Currie, the project director, that you are not a shadow design team and you are not going to be taking on design responsibility.

A Yeah, without doing additional reviews we couldn't take on design responsibility.

Q And Mr Currie is aware of that. He escalates that and you are told, "Well, that's fine. Let's just make the best of a difficult situation and proceed."

A Yeah. Again, I think the context is important. Again, I'd say the Project was in serious distress there, from a commercial perspective. The original completion date, I think, was 3 July '17 and the unitary charge effectively still needed to be covered and that was passed down, liquidated down just to Multiplex, so there was a serious commercial pressure on the Project, but also in the context that Project Co were providing assurance that the design was okay. So I think Lothian would need to take a view, but I think they took comfort from the fact that Project Co were providing assurance that the design was okay, and on top of that, there'd been a

number of eyes that looked at the Settlement Agreement.

Q Just in terms of that context, what was your understanding at this time about the financial standing of IHSL, the project company?

A I don't know the date. I just knew from the conversations I'd heard that there was significant pressure on Project Co and Multiplex.

Q And what do you mean by that significant pressure? What do you mean by that?

A I think the liquidated damages were around about 350k a week and we were a number of weeks beyond the original completion date.

Q So, in simple terms, are we talking about risk of insolvency here for Project Co?

A I don't know that. That's beyond my----

Q Were there any discussions taking place like that with other members of the project team – Brian Currie, Ronnie Henderson – about the financial standing of IHSL at this time?

A It was mentioned in passing, but I would say it wasn't-- It was more of a----

Q So what were they telling you in passing?

A It was probably more an

EY-, MacRoberts-type issue. They were looking at the-- I think the crunch time was about 18 months after the original completion date. I think that was when there was some sort of trigger in the contract which could have caused additional issues, but as I say, I wasn't that close to the detail of it. I was just aware there was significant distress and commercial pressure.

Q So your understanding, at the point that Settlement Agreement 1 is being drafted, there is really significant commercial pressures that means a deal has to be done?

A Yes.

Q Thank you. If I could now just perhaps move on, Mr Greer, and look at some of the detail, and really, I will sketch out a broad timeline from 2018 right up to High Value Change Notice 107, just to try and understand what is happening at various points in the project. So, if we could begin, please, by looking at bundle 13, volume 5, at page 1097. If we could look down, I think this is some entries from the Aconex system that you might have been familiar with. I think we can take matters up approximately halfway down the page. There is the "Re: G1547 RDD Review Environmental Matrix". Do you see

that?

A Yes.

Q And this is from Kamil Kolodziejczyk and it is to Ken Hall, and if we perhaps just look over the page onto page 1098. It is about halfway down. The final paragraph begins, "IHSL are also reminded." We can zoom in on that. Do you see that?

A Yes.

Q And it says, "IHSL are also reminded that the reference design has no relevance to the current contract, and IHSL are to comply with the Project Agreement and in particular the BCR's and the PCP's. Any non-compliance with the BCR's or PCP's should be highlighted to the Board." Do you see that?

A Yes.

Q Why would Mr Kolodziejczyk be including that standard language at the end?

A I think there had been a number of meetings by that point where the reference design had been mentioned, in terms of-- I think there was two themes that came through. One was the design is as per the reference design and the second issue was NHS Lothian have approved the design through the review procedure, and I think the implication thereby that the board had design liability. So, yes,

that was two, so there was quite often-- I think this issue went more or less right the way through to July '19 in some ways. There was still conversations going on then about this and-- Yeah, so it was a theme that ran through the course of the construction phase.

Q And, in simple terms, is this one of your colleagues simply reminding Project Co that all of the design risk sits with them and that just because there are some comments coming back, they should not think that this is an agreement or a derogation from the contractual liabilities?

A Yes.

Q Thank you. Lord Brodie, I am conscious that it has just turned one o'clock. Certainly, that may be a convenient place to take a break.

THE CHAIR: Yes. We will take our lunch break now, and if I could ask you to be back for two o'clock, please, Mr Greer.

(Adjourned for a short time)

THE CHAIR: Good afternoon, Mr Greer. Could I just remind you about what I said about a level of speaking? We are keen to hear what you have to say, and it is very easy just to get into a conversational style of speaking. I mean, all witnesses have the same problem, but if you could maybe just speak a bit louder and bear in mind that there are people in the back of the room who are keen to hear what you have to say. Thank you.

MR MACGREGOR: Thank you, Lord Brodie. If we could just perhaps pick up from where we left off before lunch, and look to volume 13, bundle 2, page 538. Volume 13, bundle 2, page 538. This is an email from Kelly Bain of Mott MacDonald's to Darren Pike and others. There is a range of people copied in, including yourself. Volume 13, bundle 2, page 538.

UNKNOWN SPEAKER: Sorry, is it bundle 13, volume----

MR MACGREGOR: 13.

THE CHAIR: Thanks very much, Carol, thank you.

MR MACGREGOR: And we see your colleague saying:

> "Hi All, The Board have noted the number of air changes within the en-suites is higher than that required under SHTM [and then if we look to the final sentence in the paragraph]. Can Project Co please confirm the above and if a Derogation needs to be submitted for the Board's approval."

Do you see that?

A Yeah.

Q In context whereby the only design responsibility that NHS Lothian is taking on, on your analysis, is for operational functionality, why do we see comments coming from Mott MacDonald to Project Company and Multiplex about compliance with SHTMs?

A So Kelly has issued this, but Kelly's part of the project management team. So there's likely a number of emails behind this email, a combination potentially of the Mott MacDonald team and the NHS Lothian team. So Kelly would be issuing this on behalf of the broader team.

Q Okay, and commenting upon compliance with published guidance including SHTMs?

A Yes, yeah.

Q And then if we look on bundle 13, volume 1 this time, please.

A I think that email is a precursor to that derogation, WW14, that comes through in July so----

Q And if you just explain to the court, what is WW14?

A WW14, it was a derogation issued by Project Co in July '16, which I think related to the extract rates for single-bedded rooms. So it's the extract rates in en-suites and single-bedded rooms.

Q And is that an agreement by NHS Lothian to derogate from the published guidance?

A No, it was Project Co were submitting a derogation to-- with the potential to derogate from published guidance.

Q And was that something that was agreed to?

A No.

Q Why not?

A At that stage, it was under review. So I think the first thing, there was a process point that derogations didn't apply to the NPD contract. So it had to be done either via Project Co change or some other contractual means. So there was a process point first, and then there was a lengthy discussion about whether Lothian were willing to accept the-- an increased extract from the en-suite and a reduced air change rate for the overall bedroom.

Q And do you recollect what was the outcome of those discussions?

A Ultimately, it was included in item 13 of the 81 list that was in the settlement agreement.

Q Okay. We will come on and look at that when we come to the settlement agreement, but you think that email that we have just looked at

is a precursor to what ends up as item 13 in the technical schedule?

A Yes.

Q Thank you. If we could look on this time to bundle 13, volume 1 at page 7. This is an email from your colleague Kamil Kolodziejczyk to Ken Hall of Multiplex stating, "The board have reviewed the Environmental Matrix and still has significant concerns and items that do not appear to comply with the BCRs." Do you see that?

A Yes.

Q Now, whenever your colleague is referring to the board having "reviewed the Environmental Matrix," are we talking about a detailed technical audit or are we talking about the analysis you have talked about in this sampling approach?

A It wouldn't be a detailed technical audit; it would be more a sample approach.

Q Okay, and even on that light touch sampling approach, your colleague had identified what he refers to as "significant concerns" in relation to non-compliance with the Board's construction requirements. Can you see that?

A Yes.

Q Can you just try and explain in general terms, we are now-- the contract is signed in 2015, we are now in October 2016 and there is significant concerns. What are relations like between the parties at this point in time?

A I think at this point in time the relations were still okay. Just trying to think. I'm trying to remember if it was December that-- was it December '16 or December '15 that (inaudible – 00:07:22) 133 failed? At that point, I think we were still working well with Project Co. It was more as the commercial pressure increased it felt like the pressure on the teams increased as well. I'm sorry, I can't remember exactly but there was-- (Inaudible – 00:07:39) 133 failed so I can't remember the date of it, but that resulted in significant delays to the construction. I think it probably was December '15 that happened, and then in-- I think it was probably July, July '16, Dunnes had gone into administration which meant the concrete frame wasn't able to be completed, so the site-- so there was a number of weeks delay as a result of those two instances. I think that generally increased the pressure on the teams.

Q So at this point in October 2016, what was your understanding of the significant

concerns that had been identified?

A So I think I think this would have been revision 7 of the Environmental Matrix at this time. Sorry, I wasn't as close to the detail of the actual issues, but in terms of just what's in the email, so there was, "Board has highlighted cells in blue and red bubble in the hard copy." So that would have been items they'd identified. There was also the production group drawings were ongoing, so that's the clinical updates of the 1-200 and the 1-50s. So when that process was happening, there was then the Environmental Matrix would have to loop back round and make sure that they've reflected the outputs from the production groups. "Doesn't reflect clinical light," so there was quite a few lux, I think. Points 3 and 5 are lux level, I think, like lighting issues, and then ventilation issues as well. So it looks like there is a broad range of generic issues with the matrix at that point.

Q So if we just think about that broad range of issues that have been identified, including point 6, "Some ventilation rates don't appear to comply with BCRs." Was NHSL still comfortable just to proceed with this light touch sampling approach that you have talked about from Mott

MacDonald?

A At that stage, yes. As I say, back to the point where we increased the scope was more from a construction site inspection-type approach as opposed to the actual design reviews, so, yes, we carried on. There was kind of an organic growth in the matrix because items were getting resubmitted then we were looking at them a number of times. So there was an organic review, but it was always done in the context of the risk allocation. I think, again, Lothian, with the (inaudible – 00:10:26) 133 and with Dunnes, I think we're very conscious not to be seen to be delaying works on site when-- on the basis of the risk allocation in the contract.

Q You obviously, at this time, worked in the private sector for Mott MacDonald. You now work in the public sector for NHS Lothian. If you were working on a public/private finance hospital and you had got to a point whereby very significant concerns had been identified, including with ventilation rates, if you were on the client side, would you not want a more detailed technical audit to be undertaken of the solutions being put forward by the project company?

A I think there's probably a broader-- in terms of PFI/NPD, I think

we really do need to look more broadly about whether that's an appropriate contract for healthcare going forward because it does limit the-- if you're employing somebody to design, build, finance and maintain something for you, you are, in theory, passing over a lot of the risk – apart from the operational functionality risk – to the private sector. For me, there's a (inaudible – 00:11:36) given, ultimately, contractually you can hand over the risk. Practically, a lot of the risk ultimately still sits back with NHS Lothian, so I think in that I would say I think we need to review whether we're using NPD contracts or similar going forward as a general principle.

Q So, much more complicated than a straightforward design and build contract whereby you know exactly where the risks and liabilities sit?

A I think everything needs to be on the table going forward, I think. Even design and build, you're still handing over a lot of the risk to the private sector. So it's not as complex as NPD, but a lot of the principles still apply.

Q We will maybe come on and discuss this more later, but just given that it has been raised, you are raising NPD revenue-funded contracts and the problems they create, do you think in terms of the project for the RHCYP, part of the problem comes from the very deal structure and contract itself?

A There's limited things the Board can do to actually change the design. So once the requirements are set and the Board construction requirements are set, they can comment through the review procedure but, ultimately, Project Co could proceed. My understanding of a review procedure is Project Co proceed-- could proceed anyway at their own risk without taking on board the Board's comments. So you are effectively handing over to the private sector to design, build, finance and maintain that building for 25 years.

Q So if I am understanding you, effectively a loss of control for the health board in that type of contract?

A Yes.

Q Theoretical transfer of risk all onto Project Company, but that might be identified quite late in the day if they simply get on and build various things?

A Yeah.

Q Is that right?

A That's fair enough, yeah.

Q So is it fair to say then if we just kind of work through those

stages, really, if you are looking at it from the health board's point of view, if you are in a revenue-funded project, an NPD-type contract, there is theoretical transfer of the risk but if you ultimately have the responsibility for providing the health care, you might find out very late in the day that you have got a facility that does not comply with relevant guidance or similar issues?

A Yeah, I think that's right, and I think back when the NPD contracts were all getting formed, I don't think the industry had the same level of issues from a healthcare delivery perspective. It wasn't as prevalent in the industry. I think it's more recently become more common. Certainly, obviously, Glasgow/Edinburgh projects. There's a number of other projects around just now that are having similar issues as to what we've experienced.

Q Can you just give some general examples? I am not asking for specifics, but you say-- Because one thing the Inquiry and the Chair might be interested in is, are these completely isolated project-specific issues that crop up on the RHCYP, or are these actually wider systemic issues that are going to crop up on future projects? So I would be

interested in your views on that.

A Yeah. So, I mean, locally, I don't know the details of Baird and Anchor but there's been some obviously high-profile media attention in terms of the challenges that projects-- Again there's a brilliant project team on there that I used to work with from NHS Grampian, but they've got challenges there with the projects, like at Dublin Children's Hospital. Obviously, a different country, but I think it was started off at a million pounds. I think it's now over two million in terms of where that's sitting. Again, that's just from what I've read in the media. I think there was Mid Met and Royal Liverpool down south. I think they experienced significant challenges and-- yeah, so there's-- it does feel like it's more systemic in terms of----

Q And when you are talking about these significant challenges, can we just tease out-- what do you mean by that?

A So, again, I don't know the detail-- it's really what I've read in the media in terms of the delays experienced in these projects, and I think that was served the Mid Met Royal-- I think that was Carillion who were on there who went into administration. So there was probably

a few themes coming out there in terms of the commercial pressures on these projects.

Q And is that largely arising, in your view, because of the fact that you have ceded control, you have signed the contract and it is a separate project company that is ultimately going to build and initially be responsible for the hospital?

A I think it probably needs a broader review than that. I think that could be one of the reasons, but I think there's probably a broader review needs to be undertaken on the delivery models going forward.

Q So, if there was to be that broader review, what would you envisage it including?

A I think we need to review all the options. So, I guess the two big procurement models in Scotland just now are-- it used to be the NPD form of contract which was 2011, 2012 but more recently, it's-- I think all the recent projects have gone through the HFS framework with a principal supply chain partner. So that's generally any C3-, any C4-type contracts, and I think we need to consider is that the right model or are there other options we need to look at?

Q Okay. Thank you. If we perhaps just return to bundle 13,

volume 1, and if we just move on to page 8, please. It is really just a bit about-- with regards Kamil, where it states:

> "Whilst the Board has noted general and specific comments above, the Board reminds Project Co that unless the Board has already accepted a derogation is Project Co's obligation to comply with the BCR's/SHTMS etc, and the Board not commenting does not remove that obligation on Project Co."

Do you see that?

A Yes.

Q So, again, is this the standard reminder that gets sent across to Project Co effectively saying we are commenting on this but the design risk still sits with the project company?

A Yes.

Q If I could ask you to look on within bundle 13, volume 1 to page 21, please. So, this is an email from Brian Rutherford of Wallace Whittle, 9 February 2017, to a range of individuals. You see that Kamil Kolodziejczyk and Colin Macrae of Mott MacDonald are copied into that. It says:

> "Further to our Ventilation workshop on Monday, please find

enclosed a copy of our Multi Bed Rooms - Ventilation Amendment Proposal to Achieve Room Balance, Proposed Solution to Rooms Identified As Being Of Concern.

"As agreed, we have also enclosed a set of A3 general arrangement layout drawings to be used as key plans over marked to show specific room locations."

Do you see that?

A Yes.

Q And then if we look through that, you will see a series of drawings. So, the first drawing's got spaces marked out with red lines going to A, B and C at page 22. And then page 23, we have got E and F-- or D, E and F, and then 24, we have got G, H, I, J, K and L. Do you see that?

A Yes.

Q So, is that effectively Wallace Whittle, TÜV SÜD telling a couple of your colleagues from the technical department exactly where these rooms A through to L sit within the hospital?

A Yes.

Q And, again, if we just look down onto page 25, we just take as an example D and E, those are room codes for B1-063 and B1-03. The Inquiry has heard evidence that the B1 code means that a space is sitting in critical care. I appreciate that you might not know the technical details of that but would it be fair, just looking over this email and the plans, that your colleagues within the technical the department, particularly Mr Macrae, had it pointed out with a big red line showing them where the rooms in dispute were within the hospital?

A Yes.

Q If we could look on to Bundle 13, Volume 1, to page 51, please. So, this is a communication from your colleague, Kamil Kolodziejczyk, to a range of people. You were copied in as one of the recipients. We are at 5 June 2017. If we could just scroll down to the main body of the text. It begins saying:

"David,

As previously described under MM-GC-002408, the Board does not believe these updates to the environmental conditions constitutes a Board Change. Without these updates, PCo's design was not compliant with BCRs and relevant guidance, and also from a patient safety perspective, was not acceptable to the Board."

Do you see that?

A Yes.

Q Again, if we just think back to the evidence you have given which is the only design responsibility on NHS Lothian is for operational functionality are we quite far removed from operational functionality in terms of the communication being sent by your colleague in in this email?

A Yes. I think this email was a response-- So, back to the February ’17 meeting we were just looking at, I think there was a compromised agreement reached there, whereby 14 of the 20 multi bedded rooms-- 14 of those were deemed essential to be negative or balanced. I think this (inaudible – 00:21:57) is a reply. So, February ’17, we thought a compromise agreement had been reached, and then the project progressed, and then in May ’17, David Martin from Project Co issued an email saying, effectively, that Project Co were not proceeding with the compromise and that a Board change was required. The reasons for that were that the Board had signed off the Environmental Matrix at level A or level B through-- I think it was probably level B through the review procedure and there was then-- the other point that David made was two points related to the review procedure which-- one of them might have been reference design, and then the point three that David made was that that Project Co felt the 20 multi-bedded rooms were general wards. So, yes, this is Kamil responding to David’s request for a Board change.

Q And what Kamil is saying back is, “We are not prepared to agree to that because it wouldn’t be safe for patients”?

A Yes.

Q If we look at the final paragraph there beginning, “Additionally, the board notes.”

A Yes.

Q

> “Additionally, the Board notes that PCo used wrong design criteria for the multi-bed rooms. As explained by the Board at the meeting on Monday 23 January, a ‘ward’ constitutes the total bed complement of a designated area. Multi bed rooms are much smaller sections within a ward that allow patients to be nursed as a small group. Within Children’s Services, these areas are important for the purposes of clinical safety as they allow a cohorting of patients who require enhanced levels of

nursing observation/support either because they have the same type of infection, or are at a similar stages of acute post-operative recovery."

Do you see that?

A Yes.

Q So, again, saying we need the cohorting of patients, and this is a patient safety issue.

A Yeah.

Q Then if we look over the page onto page 52, final paragraph of Kamil's email:

"Please note that Table A1 is a summary extract from the Activity Database (ADB) and as stated in the SHTM, PCo should refer to the full ADB Sheets for further details relating to multi bed rooms. Please find attached, for your information, the design criteria for multi bed areas."

Do you see that?

A Yeah.

Q So, would it be fair to say that this email being sent by your colleague, Kamil Kolodziejczyk, that is setting out a very clear position in terms of compliance with published guidance including SHTMs?

A Yes.

Q And is this part of the ad hoc advice that we talked about previously? Is this ad hoc advice being given by Mott MacDonald to NHS Lothian in terms of compliance with published guidance?

A Yes, I'd say so.

Q We do not see any mention within that email of the spaces in question being in critical care, do we?

A No.

Q Why not?

A My understanding of the 20 multi bedded rooms is that they were all classified as 20 normal bedded rooms. So, all the conversations-- thinking back to July 16 when the single bed derogation was submitted, that was six air changes to four air changes. Then the conversation then developed to-- Project Co's position was: these were 20 rooms and were all general wards, and then the NHS Lothian and Mott's position-- these were all effectively normal bedrooms, all normal multi bedded rooms.

Q Did anyone from Mott MacDonald check whether any of these 20 bedrooms in dispute were within critical care?

A No, I think it was known they were in critical care because-- I wasn't in the February meeting but that would have formed part of that

assessment of selecting the 14 rooms, but I think the-- as I say, from my perspective, all I heard in the discussions was six air changes to four air changes. Laterally, after the event, I queried that, and I looked at the room data sheets for the multi bedded rooms in critical care, and I compared it against the template ADB Sheets. So, the template ADB Sheets have-- the template ADB Sheet for a multi bedded room, so the one that was used for the project, was B1-609 and that has-- the template sheet has clearly obvious critical care type activities, so things like patients on life support, as an example. The clinical activities for the room data sheets for these rooms had been changed to normal bedroom activities. So there was a conscious change to make these normal bedrooms. So, I think that supported the-- these were all dealt with as normal bedrooms, and the whole way through-- the 20 multi bedded rooms were always classified as normal bedrooms, so it was-- some of these were in a critical care department.

Q So, at this point in time, did you know some of these rooms were in critical care?

A I didn't know. I wasn't involved in the detailed conversations.

Q Would your colleague Colin Macrae, would he have known that those rooms were in critical care?

A Yes.

Q Okay.

A So, I think Kamil, in that February '17 meeting-- I think it was Kamil there from a project management perspective, and Colin there from a technical perspective.

Q Okay. So, Mott MacDonald know that some of these rooms are in critical care, but they are still treating them as a general ward. They are not making the link to say these rooms are in critical care so they need a different specialised ventilation arrangement?

A Yeah, I don't recall any conversations to that effect.

Q Is that quite a significant issue in terms of what we see happening? Is this a missed opportunity quite early on to spot that issue in the part of Mott MacDonald?

A If we think back to the environmental-- I think if the room function had been classified as an HDU area or a critical care area and the clinical activities had been those of a critical care department, so they weren't having light refreshments, then I think there would have been a better chance of the Mott MacDonald team

picking it up. I think in the circumstances that were given, obviously they'd think-- it's difficult to get into the head of a mechanical engineer, but I think-- I would imagine they were looking at it as-- these are classified as normal bedrooms. I guess the other thing I'm just reflecting is bidder C back in the procurement phase. So, bidder C were the bidders that did make a change to Environmental Matrix but they didn't change all the rooms. Some of the rooms were changed in critical care. So, they've made an interpretation about what they felt constituted the enhanced air change rate, and I think there's been various interpretations. I understand that.

Q So, your understanding-- and presumably you had a lot of time to reflect on this and discuss matters with colleagues. It wouldn't be as simple as saying to someone like Colin Macrae that room is in critical care, and that would be a lightbulb moment to say that means 10 air changes per hour and positive pressure?

A That's kind of beyond my technical understanding there, but I think it's something that could have been asked, for sure. It's definitely something that could have, but, in the circumstances where it's all presented

as a normal bedroom and the clinical activities are those of a normal bedroom, then I can maybe understand why they didn't.

Q So does it come to, if someone had told Mott MacDonald, "These rooms are HDU rooms," Mott MacDonald would then have known that needs specialist ventilation and it needs 10 air changes per hour and it needs positive pressure?

A I think if the room function had been HDU and the clinical activities in the room had been critical care activities, yeah, I think that would have all stacked up. I think the old SHTM that was applicable at the time wasn't as-- The new SHTM has been updated. I think it's a lot more specific about how we classify critical care areas in terms of the level of patient in the room, so I think there's less chance of that happening now, but I think in the old SHTM it was more of a generic response. The other thing is, back to that clause 2.60, if we had-- This is hypothetical in some ways, but if we had looked at it and used clause 2.60 for B1-609, which is the template ADB sheet, that template ADB sheet has six air changes as the air change requirement, so the guidance could have been clearer, I think.

Q So the difficulty is, even if

you get the ADB sheet, the ADB sheet itself is not having 10 air changes per hour and a positive pressure?

A The actual template one. That was B1-609, which the Project Co team selected, but equally they could have selected B1-610, which is also a critical care multi-bedded room, and that's got 10 air changes, but the one that was selected was B1-609.

Q But at this point in time, you knew some of these rooms were in critical care, albeit it is not your job to know the exact technicalities. Is that right?

A I'm not sure I did at the time. I would have been copied in some emails that probably had "critical care" in, but it wasn't something I was conscious of at the time.

Q Do you know if your colleague Colin Macrae knew that these rooms were in critical care?

A Yes, I think he was in that February 17 meeting that chose the 14 of the 20 to be essential, so yeah, I would assume Colin did know.

Q Because, again, as a layperson I appreciate you are not commenting as a building services engineer, but if you are identifying what rooms are essential for a particular set of ventilation parameters, it stands to reason surely that you need to know exactly what the clinical activity is going to be in that space.

A Yeah, and I'm not sure if Colin looked at the room data sheets and then saw that they were normal bedroom activities, but I don't know if that was part of the review or not.

Q Again, just to stand back from all this, in your role as the project manager, should the Inquiry understand there is a developing picture here that you had SHTM 20-25 that does not have any particular guidance in terms of ventilation parameters; you have got SHTM 03-01 2014 that does within table A; contradictory information provided in the room data sheets. It seems quite a chaotic picture in terms of the guidance at this period during the Project.

A I think the new guidance is better. I think we are. It's one of the things I would say that, with them pausing capital projects just now, I think that's definitely an area we need to look at in terms of trying to trying to refine the guidance so that when we when we do re-engage capital projects that there's clearer rules of engagement, clearer briefing documents. A number of the conversations I had just now is that some parts of the SHTMs, HPNs,

SHPNs are mandatory, some parts aren't, but none of that is written down anywhere. It's all based on interpretation and experience as to what's mandatory and what's indicative, what's guidelines, so I think that that's definitely something we should be focusing on over the next couple of years to improve that briefing.

Q From your perspective, and again drawing on your experience in the private sector and the public sector, rather than having guidance which may or may not need to be followed, would it be simpler if there was just a set legal standard that had to be complied with, like you would have in things like the technical handbook to the building regulations?

A Yes, I think that's probably where we need to head to. I say that we need to make that a distinguishing factor between what's guidance and what is mandatory.

Q Because then you would not be talking about whether something is guidance, whether you should or shouldn't follow it. There would be a set legal standard that has to be complied with or non-compliance justified.

A Yeah. The contract attempted to do that via the hierarchy of standards. So it made all recommendations guidance mandatory, but then that's a huge onus on the private sector and it's a difficult process to follow through.

Q Thank you. If I could ask you just to move on, and if we could look this time to bundle 13, volume 8, at page 449, literally to the email at the bottom there from Janice Mackenzie to Jackie Sansbury and Brian Currie, copying in a number of people, including Kelly Bain, Kamil Kolodziejczyk and yourself, Graeme Greer. It says:

"Dear Both

"Please find the clinical risk assessment in relation to the above as requested, which Dorothy, Fiona and I have pulled together."

Do you see that?

A Yes.

Q Now, you are obviously copied into this email. I am sure you were copied into thousands of emails over the course of the time you were working with Mott MacDonald, but do you remember getting this email that attaches the clinical risk assessment?

A As you say, there was a lot going on at this point, but yeah, so I've obviously seen the email at some point, yeah.

Q And in terms of the people that are copied into it from Mott MacDonald, it is yourself, Kamil and Kelly, and you have said that in terms of Mott MacDonald that is, if you like, the project management side as opposed to the granular technical individuals like Colin Macrae.

A Yes.

Q And then just in the main paragraph it says:

> "The issue only really affects Children's Services but we have discussed with Hester. We consulted with Children's CMT representatives this morning (Fiona Mitchell, Eddie Doyle, Lynda Cowie, Peter Campbell & Sharon Russell) and the risk assessment fully reflects their views. They are clear, as we also are, that we cannot have a new facility that does not give us the option of cohorting patients with air-borne infections. We have suggested an overall compromised position of only some of the 4 bedded rooms in the facility having the ventilation changed (in summary – all in PARU and Medical Inpatients and one of the 4 bedded areas within Critical Care)."

Do you see that?

A Yes.

Q So again, if there had been any doubt in your mind, you would presumably accept that, at least at this point, Mott MacDonald have been told that some of these rooms are going to be in critical care.

A Yes.

Q And it continues, "However the Children's CMT did say that to achieve this, there would be a delay to programme then they questioned whether we should not be changing all of the 4 bedded rooms to allow for future proofing and flexibility." Do you see that?

A Yes.

Q If we look on, just a couple of pages down, we get to page 451. This is a record of the general risk assessments that were completed. You were obviously on the project management side. Would you then provide a copy of this to someone else within Mott MacDonald or does that sit with the project management team?

A Yeah, it's something we could have done, so it would more likely have been a project like Kamil or Kelly that would have passed it on as the lines of communication but I'm not sure if we did. I just can't remember if that was something that that was passed on. I guess by this point, so

again back to February ’17-- I guess in my mind at this point, February ’17 was where all the decisions were made, where the 14 rooms were selected, 14 of the 20 multi bedded rooms were selected as being essential. The board changed, so the request for a board change then came in May ’15, and I think this was all part of an escalation process. I think MacRoberts would have been involved by now and potentially starting to escalate up to principals in Lothian, so I think that was probably part of pulling documents together to brief the exec on where things were going.

Q Okay, and it is seven years ago, and you fairly say, “I can’t remember if this got passed on to other people,” but I would be interested, looking back in an ideal world, within Mott MacDonald who should have got this record of general risk assessment.

A I’m not sure. I’m also not sure it would have made any difference if we had passed it on, because I suspect they would have still looked at this in the context these were normal bedrooms, even though within a critical care department, but classified as normal bedrooms. I mean, it might have helped if it was passed on, but (inaudible – 00:39:47)

was or not.

Q Again, just so I am understanding you, is your evidence that even if this document had gone to Colin McCrae who has got responsibility for ventilation within Mott MacDonald, you are not sure that a generalised risk assessment that said, “Some of these rooms are in critical care,” would necessarily make him think, “That means that we need to stop talking about balancing negative pressure and we need to move to positive pressure and 10 air changes per hour”?

A Again, I wasn’t involved in the February but I’m kind of assuming that all those discussions took place in that February meeting where the 14 rooms were selected. I would have thought any issues would have been raised at that point as opposed to necessarily in a follow-up. For me, this was just kind of documenting the decision making. In Janice’s email it mentioned one room in critical care. I’d always thought there was four rooms in critical care, so I’m not-- Again, I wasn’t as close to detail so I’m not sure how we went from four to one and then back to four.

Q The whole timeline is slightly confusing because the key and essential rooms, that discussion takes

place before in the timeline we are looking at the risk assessment. Is that right?

A Yeah.

Q Again, just from a project management perspective and drawing on your experience now working within the NHS, would you expect the decisions on key and essential rooms to be made and then a risk assessment to be done, or a risk assessment to be done and then a decision made in key and essential rooms?

A Yeah, it could have been the other way, but I think this was probably a collaborative discussion with the Project Co team back in February and I guess this was-- I suspect it was a test to see if everyone was still committed. I think this was then passed on to IPC for review. It's passed on to the clinical departments, the actual clinical teams, so it was just a test to see if they agreed with the initial assessment on the 14.

Q I will not take you through the whole of the document – the Inquiry has looked at it on a number of occasions – but if we just look on page 451, down to the bottom left-hand corner, you will see that the third box at the very bottom says "RHCYP – Critical Care: One 4 bedded room (B1-063) ventilation changed." Do you see that?

A Yes.

Q So if there was any doubt that some of the rooms were within critical care, it is set out within this document. You see that?

A My understanding-- I don't think there was any doubt there was rooms in critical care, but as I say, I wasn't close to the detail. I just know that in order to make that 14-bedroom assessment, they must have known which rooms were in-- which rooms were where.

Q And then if we look on to page 455, again, that is just really the subject of assessment, "Consider Task or Environment." Just above that, it says the department is RHSC & DCN Reprovision Project – RHCYP Critical Care (B1). Do you see that?

A Yes.

Q So again, certainly at this point in time, clear statement from NHS Lothian that at least one of these rooms is going to be within critical care, but you think fairly that that discussion probably took place previously on the basis that you could not work out what was an essential room unless you had worked out what the clinical function was going to be within----

A Yes.

Q And again, obviously you can't speak for Mr Macrae, but your understanding is that he is not at that point identifying just because these rooms are within critical care that that absolutely meant positive pressure and 10 air changes per hour?

A Again, it's difficult to put my head in the mechanical engineering but that that seems reasonable, yes.

Q If we could go to bundle 13, volume 5, please, and page 1226. Actually, if we start at page 1216, please, so bundle 13, volume 5, page 1216. This is a Design Issues Report dated 7 July 2017, and if we look on to page 1218, you see that the document is dated 7 July 2017. The originator is Kamil K. Is that Kamil Kolodziejczyk, your colleague?

A Yes.

Q The checkers are W. Stevenson-- So is that William Stevenson and then Colin Macrae?

A Yeah, that's right.

Q And you are the approver?

A Yes.

Q So what were you doing in terms of an approval rule? Is that just because you are the line manager for Mr Stevenson and Mr Macrae?

A Not the line manager, but in terms of the project, I was the project manager, and therefore my role here was to make sure that we had appropriate governance on the document before it was issued.

Q Again, you told us quite clearly, both in your statements and in your evidence, that there is no design responsibility being undertaken by Mott MacDonald. Why are Mott MacDonald then producing a design issues report if they do not have any responsibility for design?

A I think this was requested. It was one of those ad-hoc requests from Brian to say, "can you provide a report." I think there was three issues in this report. There was a high-voltage supply issue, there was an MRI issue and ventilation, I think, was the third issue.

Q If we look to the ventilation issue, if we look down to page 1225, just to the very bottom, paragraph 2.2.1. So, page 1225 at the bottom, paragraph 2.2.1. It states:

> "The Board believes Project Co's design for ventilation within both single and multi-bed rooms is non-compliant with SHTM guidance and the ADB database requirements with regards to both air change rates and pressure

regimes."

Do you see that?

A Yes.

Q Then if we look down onto the next page, page 1226 towards the bottom, it is the final paragraph under, "2.2.2.2 Multi-bed rooms with en-suite." There is a paragraph:

"As explained by the Board at the meeting on 23 January 2017, a 'ward' constitutes the total bed complement of a designated area. Multi-bed rooms are much smaller sections within a ward that allow patients to be nursed as a small group. Within Children's Services, these areas are important for the purposes of clinical safety as they allow cohorting of patients who require enhanced level of nursing observation/support either because they have the same type of infection, or are at similar stages of acute post operative recovery. Additionally, these rooms aid the normal socialisation and development of young children. Similarly, within DCN multi-bed rooms within the ward are used to cohort patients requiring enhanced levels of nursing/monitoring that is more difficult to achieve within single room environment.

Do you see that?

A Yes.

Q As I understand it, in this report, it is still being treated that the pressure regime should be balanced or negative rather than positive. Is that right?

A That's right, yeah.

Q Why is it the case, given that within this paragraph it is recorded that for these spaces, there is going to be this enhanced level of nursing, and given the fact that the general risk assessment relating to critical care has already been provided to Mott MacDonald, why do we not see any discussion about critical care areas within this paragraph?

A I think because they'd all been classified as normal bedrooms, and clinical activities in the critical care rooms were those of normal bedrooms.

Q Okay so again, is it back to it has been locked down that these rooms-- it is absolutely essential for them to have balanced or negative, and is that not really revisited at later stages in the project?

A No, I think February '17 seems to be where the decision in the 14 rooms was taken, and I don't

believe it was revisited at all until IOM did the actual validation.

Q Then if we look over the page onto page 1227, the paragraph just above 2.2.3:

> "Project Co has designed the multi-bed rooms to supply 4 ac/h with an extraction within the ensuite of 10 ac/h, thus resulting in a positive pressure regime. The ADB sheet for a multi-bed room (4 beds) states a minimum air change of 6 ac/h and a balanced or negative pressure. Therefore, Project Co's design does not comply with the requirements recorded within the Activity Database."

Do you see that?

A Yes.

Q Again, six down to four, balanced or negative versus positive, given that this is simply being treated as a general ward.

A Yes, a general bedroom.

Q A general bedroom, apologies. Then if you read on, the summary states:

> "The fundamental concern to the Board is that in continuing with Project Co's proposed non-compliant design, there is a risk of the spread of bacterial airborne infections into corridors and surrounding patient rooms."

Do you see that?

A Yes.

Q Then the next paragraph, four lines up from the bottom:

> "Without these updates, Project Co's design is not compliant with BCRs and relevant guidance, therefore, any costs associated with re-design are Project Co's responsibility. Furthermore, Project Co should submit a Project Co Change for deviation from relevant guidance."

Do you see that?

A Yes.

Q So again, advice from Mott MacDonald in relation to whether or not there is going to be compliance with published guidance.

A Yes.

Q If I can ask you to look on to bundle 13, volume 5, please, to page 1243. So, the first email is from Janice Mackenzie to Dorothy Hanley, copying yourself in. It says, "Thanks Dorothy, I've made a few minor changes." Then we see reference to the document below that in an email from Dorothy Hanley to Janice Mackenzie, again copying you in, and it says, "My comments and addition of rationale column for Janice's

additions/amendments." Do you see that?

A Yes.

Q If we look down onto page 1244, do you see a MacDonald document on page 1224? (sic)

A Yes.

Q Called "RHSC + DCN Multi-Bed Room: – 4 beds ventilation extracts from IHSL Environmental Matrix." Do you see that?

A Yes.

Q But again, just to think back to the advice of Mott MacDonald, operational functionality sits with NHSL, no other design responsibility taken over by the Board. Why are Mott MacDonald making up this document that has got a whole raft of technical parameters for the ventilation system?

A So, I think a few things on this. So, I guess the key for me is in the kind of disclaimer it was a-- I think this was a project management document. I don't think the technical team presented this, and I think the initial reason was to issue it to David Rawlinson as part of his independent review. So, I think it was originally produced back in about October '17 and I think-- The grid's missing, just to the left of WWXXXDC, the REV10 RHSE. I think there's hidden cells

there and the original document had all the environmental matrix presented. So back for David Rawlinson, I think the environmental matrix, I think, were shared with him and then I think it was McRoberts asked could we produce a summary of Project Co's environmental matrix, which we did.

I think we were flagging on the bigger version we were flagging the changes that Project Co had made to their design on each iteration of it for the 20 multi-bedded rooms, and then this, I think it was just convenient for the purposes of-- I think this would have been February '18, so February '18 when, probably in advance of-- There was a principals meeting at the Sheraton in mid-February and I think this was probably preparation for that meeting, saying what was the compromise position back in 24 February '17. And I think there was then, if we could, is there any further compromise that could be made by the Board in advance of those discussions with Project Co. So, it was really setting out, and then the rationale was added to why a further compromise might be able to be made.

Q Because if we look down the Mott MacDonald document, the left-hand side is "Department" and the second main boxes, we have got "B1"

and it is, “PICU and HDU’s – 24 beds.” Do you see that?

A Yeah.

Q Again, I picked you up earlier as saying really, if Mott MacDonald had just known that these were high-dependency unit rooms, that they might then have realised that whenever you look to Table A1 of SHTM 03-01, it should be 10 air changes per hour and positive pressure, but we do not see that within this table, do we?

A As I say, I didn’t do the review myself, but I’m assuming the team looked at the room function, which is multi-bed ward in terms of-- Certainly, in the room function sheet back in the environmental matrix-- sorry, the draft environmental matrix, there was a room function sheet and in that, there was a row for HDU. When Project Co took the first iteration on, that HDU row was deleted, so that’s what I was thinking. If that row had been there and it had been HDU in that room function, it seemed to be like a-- I don’t know how the original spreadsheet worked, but it could have been a drop-down where you selected HDU and it auto-populated the rows beyond that, maybe. Yeah, so I think if that was populated with HDU in terms of that room function that probably would have generated the cells beyond that.

Q But at the minute again, just because the space is in HDU, Mott MacDonald are not making the connection that that should have ten air changes per hour and positive pressure?

A I’m not sure. As I say, this original intention was to summarise all versions of the matrix to David Rawlinson, and then I’m not sure if this was shared with the technical team. My recollection is this was a project management function for the principals meeting in February.

Q Thank you. In terms of the principals meeting that takes place, I think you had said earlier you were there?

A Yes.

Q In terms of the Mott MacDonald side, who else was present at the principals meeting?

A I’m not sure. I’d imagine Kamil and myself. I think Colin was potentially in the Mott MacDonald office just round the corner, so I remember, certainly Kelly and Colin coming across at some points for the meeting. It probably depended on which topic was getting discussed.

Q Thank you. If I could ask you to look to bundle 10 please, and to

page 112. So, the document we are looking at is effectively a timeline that was created much later in the project, where it lists a number of events and one of them, you see just-- approximately just over halfway down the page on page 112. It is an entry that is called "Motts Peer Review of Settlement Agreement." You see that? "Motts Peer Review of Settlement Agreement – 29 August 2018 – B Curry and Mott Mac." Do you see that?

A Yes.

Q Do you have any recollection of what was being discussed at that Motts Peer Review of Settlement Agreement meeting?

A Yes, so the peer review, that was a-- it was a regular meeting for the Mott MacDonald directors to meet with Brian and Iain. So, Iain Graham, Director of Capital Planning; Brian Curry, Project Director; so the Mott Macdonald directors met. So, it wasn't generally called "Peer Review of Settlement Agreement," there was a regular, maybe quarterly meeting, maybe six months later, where the Macdonald directors, so generally being Richard Peace, Richard Cantlay, met with Brian and Ian just to discuss any issues of escalation from a project team perspective or any project issues

that needed escalated away from the project team delivery side of things. I think there was a chap called Rhydian Morgan. He came from a contractor background, and I think we felt it was useful for Rhydian, Richard and Richard to meet Brian and Iain, just to really get Rhydian's perspective on how things were going at this point from his contractor background.

Q Was it a review of the settlement agreement that was being discussed in terms of the commercials, the technical issues, or a bit of everything?

A I think it was probably a general status of the project and the settlement agreement. I think it just happened this one was on-- More broadly speaking, it was a general review of the project, and it was just that the settlement agreement-- So I don't think they discussed the detail of the settlement agreement.

Q In terms of the timing, you have told us about the meeting that takes place at the Sheraton and there is an agreement that is reached later within 2018, but there was also the proposed litigation. Is that right?

A Yes.

Q Is that possibly taking place after the meeting at the Sheraton?

A Yes, so the meeting at the Sheraton, the parties couldn't reach agreement on a few matters, the big one being the multi-bedded room issue, and shortly after that then it escalated to legal proceedings.

Q Okay, and at that point, NHS Lothian, they have got court documents drafted up, is that right?

A Yeah, we'd-- I'm not sure exactly. It would be shortly after the Sheraton meeting they would have been-- that would have been instigated, yes.

Q But formal court documentation drafted up, is that correct?

A I think so, yeah, yeah.

Q And you provided a draft affidavit, did you not?

A Yes.

Q And what did you cover in your draft affidavit for the potential litigation?

A The 20 multi-bedded rooms. So 20 multi-bedded rooms using the ADB sheet, clause 2.60, and the six air changes, I think, were balanced.

Q And at this point, NHSL's position and Mott MacDonald's position is that those rooms need to be balanced or negative pressure, is that right?

A Yes.

Q And IHSL and Multiplex are saying, "No they do not, they need to be positive pressure."

A They were just saying it was a general ward, so they said it needed to be six air changes but they were providing four and-- but I don't think they committed to a pressure regime, I think they just said the general ward was silent on pressure regime.

Q Okay, and presumably reasonable to assume that if NHSL is at the point of litigating that its proposal in terms of this must be balanced with negative pressure, that that has been subject to a detailed review?

A Yes.

Q And is that a detailed review with the assistance of Mott MacDonald?

A Yes, yeah.

Q So the litigation does not take place because there is an agreement reached at some point during 2018, is that correct?

A Yes, yeah.

Q And I think you told us in your evidence just before lunch that, at this point, you were really getting quite concerned because of the overall risk profile of the project, is that correct?

A It would have been the-- probably about June ’18 probably when I first-- when I saw the first iteration of the-- probably the first iteration of the 81 list and the technical schedule. So I think that had drafting at the top, or it was potentially in meetings with IHSL where, I think, one of the words was used that the Board had to confirm all Board construction requirements had been met. Yeah, so that, for me, felt like a significant shift from the project agreement risk allocation.

Q Again, you are not a lawyer and nobody is asking you for a legal opinion but, commercially, did that have an alarm bell ringing for you?

A Yes, yeah.

Q And just again, you are sitting with your Mott MacDonald hat on at this point. What were your concerns from Mott MacDonald perspective about this potential shift in design risk?

A I think it was more than-- I was with the Mott MacDonald hat, but it was also just from a project team perspective that I didn’t think we were in a position to take that design risk and so, yes, we just weren’t geared up for that in terms of the way we were reviewing documents.

Q Because in terms of the ad hoc advice that you have been giving, including on compliance with technical documents such as SHTM 03-01, did you see a risk that suddenly, actually, Mott MacDonald takes on all the design risk for this project?

A Yes.

Q And did you raise that with NHSL?

A Yes.

Q Okay. If I could just ask you to have in front of you, please, bundle 13, volume 5, page 1272. So, bundle 13, volume 5, page 1272, which should be an email from yourself to Brian Currie dated 4 June 2018. Do you see that?

A Yes.

Q And you begin by saying, “Brian,” so:

> “Brian, Further to your emails below, a few additional thoughts from last Thursday meeting with IHSL.” We skip the next paragraph. The third paragraph states:
>
> > “I think the intentions from IHSL were constructive (we all just wanted to close the technical issues), and I think we are all agreed that ‘all items are to be defined with precision’, however the comment about the BCRs is

concerning. As you have described in your email, in effect we had thought the process would conclude in the Board removing any further objections to the design solutions proposed and recorded via one of the mechanisms already established in the Contract.

"The risk allocation set out in Clause 12 of the PA is clear, and I am concerned that if the Board agreed to write the above BCR statements, it could significantly alter the PA risk allocation in IHSL's favour. Furthermore, I don't think the Board is in a position to fully confirm compliance with the BCRs, the burden of responsibility should always remain with Project Co. As we are not the designers, Mott MacDonald would not be in a position to provide that design assurance to NHSL."

Do you see that?

A Yes.

Q And then if we just skip to the penultimate paragraph, you conclude by saying:

"Hopefully our understanding of this could be clarified with a quick discussion with the legal team (4.30 today), particularly how the settlement agreement interacts with the PA? Or is it possible that we have misinterpreted some of the subtlety of IHSL's statements during the meeting?"

Do you see that?

A Yes.

Q So, is that effectively the email that you were alluding to in our earlier discussion this morning about concerns that you had, and particularly a concern that you did not think Mott MacDonald could go from doing a light touch technical review to suddenly taking on full design responsibility for the solutions being proposed in Settlement Agreement 1?

A Yeah, this is one of a few emails I sent on this matter, and I said Mott MacDonald could have taken the design responsibility but it would have meant a full shift to actually doing the design, and the way the contract set up, that would have been very difficult to try and implement.

Q And again, is this one of the issues that you talked about earlier, in terms of some of the difficulties that are created in terms of these types of NPD projects whereby if you have ceded control, suddenly it is then quite difficult in terms of any

possible changes that might crop up within the structure?

A Yeah, so it's not-- it's quite a rigid structure of (inaudible – 01:06:45) and, given the funding elements to it, the implications of changing that structure are quite significant.

Q Were you aware of whether there was a letter of comfort issued by IHSL in advance of Settlement Agreement 1 being signed in relation to whether their design solution complied with published guidance?

A I think I was, yes. Yeah.

Q Is that something that you would have discussed with the project team, including Brian Currie?

A Likely, yes. There was a lot of letters around at that point, and I think that was in-- if it's the one I'm thinking of, it was in response to a request from HFS or NSS and I think Lothian wrote a letter, but also IHSL wrote a letter I think.

Q Okay, so just to check we are talking about the same letter, if we could go to bundle 4, please, and page 9, which is a letter to Brian Currie dated 31 January 2019, and then if we look on to page 10, you see at the bottom it is signed by Wallace Weir, the project co-representative. The bold heading:

"All critical ventilation systems inspected and maintained in line with 'Scottish Health Technical Memorandum 03-01: Ventilation for healthcare premises

"Construction: - All ventilation systems have been designed, installed and commissioned in line with SHTM 03-01 as required, systems are maintained in such a manner which allows handover at actual completion to meet SHTM 03/01 standards.

"Operations: - All critical ventilation systems will be inspected and maintained in line with Scottish Health Technical Memoranda 03-01: Ventilation for healthcare premises."

Do you see that?

A Yes.

Q You have obviously seen that subsequently but in 2019, before the settlement agreement is signed, do you remember seeing this letter and/or discussing it with Brian Currie?

A It wasn't the one I was thinking of to be honest, no, but yeah, I don't actually remember seeing this at the time I don't think, but I may have done. Sorry, I don't remember any

detail on----

Q I want to move on now and just ask you some questions about Settlement Agreement 1. I think you have made your position quite clear, just so I make sure I am understanding it, you accept that Mott MacDonald are involved in helping to draft the technical schedule that goes into Settlement Agreement 1, including providing some general advice----

A Yes.

Q -- but your position is, as per the email we have just looked at, you were perfectly clear with NHSL that Mott MacDonald were not taking design responsibility and, in your analysis, NHSL were quite happy with that position, is that right?

A Yes, so there was subsequent to the email I sent to Brian, Brian then escalated it within NHS Lothian and there was responses to that which I think, at that point, the responses were, "We're not going to alter the risk allocation, it's going to stay as it was," but then subsequent to that, the technical scheduling came out and it seemed to have similar-- it wasn't the same drafting but I think it had similar concerns, and I raised the concerns again that it seemed to have kind of effectively reverted back to Lothian taking responsibility for it.

Q And what was the final position, as you understood it, from Brian Currie in NHSL?

A I say that there was an email I drafted to send to Brian, I didn't send it to Brian directly but I sent it internally, I discussed it with Brian and that's where we-- when we got the-- when I saw the revised technical schedule, discussed that with Brian and say, "Look, we've got offers of additional services here," to try and-- so that's back to the three options I mentioned earlier, we've said, "Look, we could carry on with a speedy RDD review, obviously as we are, and do our best. We could do an enhanced review, or we could take the design on ourselves," but at that point, Brian-- I'm not sure if Brian discussed it internally but I think at that point there was-- the commercial pressures were such and the assurances from Project Co were such that NHS Lothian didn't feel a need to do that.

Q So in terms of the options that you gave Mr Currie, which option did he come back and say he wanted to take?

A It was option A, which is just carry on and do our best with the speedy RDD.

Q Okay, but recognising that Mott MacDonald were not taking

overall design responsibility----

A Yes.

Q -- for the technical schedule set out within settlement agreement?

A Yes.

Q Thank you. I think this might be an area where recollections differ. If I could ask you to look to Mr Ronald Henderson's statement. So his witness statement is in volume 3 of the witness statements, and if we could look to page 288, please. So what Mr Henderson says in his statement at paragraph 22 is:

> "MML, IHSL and MPX [Multiplex] drafted the agreed resolutions to the disputes over ventilation in four-bed and single rooms that are found in the SA1 Technical Schedule."

Then if we look onto paragraph 27, over the page on page 289, he says, "We relied on advice from Mott MacDonald in relation to the agreed resolutions." That seems to be a very different recollection to your one, Mr Greer. Is Mr Henderson mistaken?

A I don't think Ronnie was involved in all the conversations I had with Brian, so he probably-- I'm not sure if he was copied into the email I sent to Brian or whether that was escalated. It was generally Brian, myself, MacRoberts would have been involved in kind of the more scope aspects of the conference, but Brian managed the Mott MacDonald scope as opposed to Ronnie.

Q Okay, and Janice MacKenzie, who was the project clinical director to those passages in Mr Henderson's statement, she said that she agreed with that. Again, is she mistaken whenever she said that NHSL relied on advice from Mott MacDonald in relation to the agreed resolutions?

A Yes, I would say so. As I say, we worked very closely with the NHS Lothian project team, and there we did-- I think I would say we gave a lot of comfort to them in terms of the advice we were giving, but it was back to that point: we couldn't actually give that design assurance that was needed for the settlement agreement. So maybe from their perspective, I can understand why they've said it because we were giving them a lot of comfort and we were giving them a lot of advice, but-- There was a lot of-- so, the 81 list, there was fire issues, there was ventilation issues, there was infection control issues. There was a variety. Some of them were more clinical based as well, so it really was a collaborative effort to try and get that

81 list to the point where it got into the SA, and that included MacRoberts in that as well. They were involved in the drafting.

Q Okay, so, in terms of those perhaps high-level discussions in terms of what exactly are Mott MacDonald doing, what level of responsibility are they taking, that is a discussion that is effectively taking place between yourself, Brian Currie and sometimes with MacRoberts, the legal advisors being involved as well.

A I think there would have been others copied into that email as well I sent that Brian then forwarded on. I can't remember who exactly, but I don't think Ronnie or Janice would have been involved in that. Sorry, I can't remember who was copied in.

Q Thank you. I would like to move on and just ask you a few questions, Mr Greer, about the settlement agreement itself. So, that can be found within bundle 4. It starts at page 11. Bundle 4, page 11. So, if we come out of the witness statements, I am going to bundle 4, page 11. This is the settlement agreement and supplemental agreement relating to the project agreement for the provision of RHSC and DCN at Little France. Do you see that?

A Yes.

Q So, is that effectively what we have been referring to as the settlement or Settlement Agreement 1?

A Yes.

Q If we could look on to page 42, please. You see that there is item 7 there, with the dispute being the four-bed ventilation, and it begins by stating:

> "In relation to ventilation pressure regimes, the Board believes Project Co's design for the 4-bed ventilation is non-compliant with the Board's Construction Requirements."

And it then goes on to list SHTM guidance as well. If we look to the fourth paragraph, it says:

> "From a clinical perspective the principal concern to the Board in continuing with Project Co's proposed pressure regime design means that there is an unacceptable risk of the spread of bacterial airborne infections into corridors and surrounding patient rooms (positive to the corridor). The Board requires the pressure regime to be balanced or negative."

Do you see that?

A Yes.

Q And then if we look to the right-hand column, we see a description of the agreed resolution, which states:

> "The Reviewable Design Data noted below for this item has been given status Level B in accordance with Schedule Part 8 (Review Procedure). The resolution of the Dispute submitted by Project Co through the Schedule Part 8 (Review Procedure) and agreed by the Board, is for 14 No 4 bedrooms to be balanced or negative to the corridor at 4ach/hr."

The remaining six four-bed wards remaining as per the Environmental Matrix. And then there is a listed series of drawings. So, effectively, the resolution is balanced or negative pressure, four air changes per hour. Is that right?

A Yes.

Q And if we look down, it begins on page 45, item 13 at the bottom. It is called, "Single Bedroom Ventilation air changes," and then just slightly over the page onto page 46, we have got the detail of that dispute:

> "In relation to ventilation air change rates, the Board believes Project Co's design for the single bed ventilation is non-compliant with the Board's Construction Requirements ('BCRs'), Project Co Proposal's, SHTM Guidance, and also non-compliant with comments made by the Board on the Environmental Matrix in the Reviewable Design Data schedule at Financial Close."

Do you see that?

A Yes.

Q So, again, in addition to the multi-bedrooms, there is also a dispute about ventilation requirements in certain single bedrooms. Is that right?

A Yes. So, this goes back to the WW15 derogation, so-- and I think in terms of that description of agreed resolution in the appendix, it was effectively a Project Co change that was included as the evidence of that. So, yes, it went straight-- from July '16 right through to item 13, that was consistent.

Q Okay, and we see the resolution just at the bottom of page 45 over onto page 46. It says:

> "The Board/Project Co agree this item is closed, and the agreed technical solution approved through Schedule Part 8 (Review Procedure) and, agreed by the Board and Project Co as resolving the Dispute is as

set out in Disputed Works Schedule Appendix 1 Item 13."

Do you see that?

A Yes.

Q So, again, just can you just explain in your own words how was this-- the single bedroom ventilation issue, how was that practically resolved?

A I think it was reducing-- So, the SHTM 03-01 for a single bedroom required six air changes, negative or balanced and the agreed resolution on this one was six air changes to four air changes, negative or balanced with an increased extract to create that negative, balance pressure regime.

Q And if we think to critical care rooms, which in Table A1 would have 10 air changes per hour, was your understanding-- in relation to item 13, was there any derogation from ten down to four as opposed to six down to four?

A No. All the discussions I recall were six to four.

Q Thank you. So, if we could move on and then discuss the IOM limited testing, when does that come on to your radar in terms of the testing that is done by IOM?

A It was fairly late. So, I think the settlement agreement was

signed around February '19, and there was a quieter spell in March when we were just proceeding towards opening and working through the issues, and then I think it was probably about April or so-- I think Ronnie had asked if we knew of anyone that could do an independent validation. So, I think we checked around, but I think ultimately, we ended up with IOM. So, I don't know the exact dates, but it was probably around about April or so when that was instigated.

Q And in terms of the testing, was that testing against a contractual standard or was it going to be testing against published guidance SHTM 03-01?

A That query came up later on, so IOM were instructed to do the validation, and Ronnie-- I think Ronnie had some leave to take, and Colin, because he knew his way around the building, he kind of showed IOM where the various rooms were, and in terms of whether it was published guidance. There was a query come in about should we be testing-- From my perspective, a query came in about, "There's some of the multi-bedded rooms are coming at four air changes." I was saying, "That's okay. That's in item 7 of the settlement agreement. There's 14 of the 20 rooms are in a

settlement being derogated down." So I think I sent an email to Janice saying, "Should we say to them now there's been a derogation, or let them do the report and then correct it via the derogation that's in the settlement agreement?"

Q Whenever you are talking about a derogation, presumably item 13 is a derogation – it is an agreed derogation – but in terms of item 7, was that a derogation at all?

A Apologies. The terminology probably wasn't quite right there. The agreed resolution, for me, the impact was the same. I think the difference between the two is, I think, Project Co acknowledged they were non-compliant with-- sorry, maybe they don't. There was more of an exception that they were willing to submit a Project Co change for item 13. It was more recognised that they weren't compliant with 0301, whereas item 7, I don't think they ever accepted that. It was much more-- their position was that 20 rooms were general ward, so there was more of a dispute in item 7 than item 13.

Q For item 7, was it not what Mott MacDonald's understanding at the time that is drafted that it met fully SHTM 03-01 as opposed to being a derogation that was lower than

SHTM 03-01?

A No because it was six air changes to four air changes.

Q So it was going from six air changes to four air changes?

A Yeah. Yes, sorry, that six air changes to four air changes, we produced a residual risk register, and the residual risk register-- so, we queried (inaudible – 00:10:27) with the reduced air quality six to four on the basis of these-- both the single bedroom and the normal bedrooms were six air changes to four air changes, and the response was, yeah, they were happy with the increased volatile organic compound. Basically, we reduced air quality by going from six air changes to four air changes, and that's recorded in this residual risk register.

Q So Mott MacDonald's understanding was always it is derogating from six down to four as opposed to 10 down to four?

A Yes.

Q Can we just look, then, please, to bundle 13, volume 9 at page 259.

A Sorry, I don't know if this is a-- so that's my understanding. I've obviously not been with Mott MacDonald for a while, so I'm not sure what their position is.

Q So, bundle 13, volume 9, page 259, which is the IOM report Witnessing of theatre re-balancing and validation summary report. If we could look down to page 263, please, at the bottom, and to the final paragraph, "High Dependency Areas." So what the IOM report states is:

> "Testing of the high dependency areas identified that the air change rates and pressure cascades did not meet the requirements. In early discussion with the Health Boards [and then over the page] Technical Advisors (Mott MacDonald) we were advised that there was derogation in place which reduced the requirements from 10 ach/hr to 4."

Do you see that?

A Yes.

Q Why would someone from Mott MacDonald be saying there was a derogation from 10 down to four?

A I'm not sure. All the conversations I was ever involved in was six air changes to four air changes.

Q Because the Inquiry has heard some evidence already to indicate that Colin Macrae was telling IOM there is a derogation from 10 down to four. Do you ever remember having any discussions with Mr Macrae about that?

A No, not at all. The whole way through from July '16 right the way through to June/July '19 was six air changes to four air changes.

Q Thank you, and if we just continue on on page 264, it says:

> "The test information was summarised in an initial briefing to the Health Board during w/com 2nd July. It later transpired that there was some confusion on the detail of the derogation and the Construction supply chain and the Health Board began working on both an interim solution to improve the solution and a longer term permanent solution. [Then we see] The final results for the high dependency areas were as follows."

And then it continues down. So, if that type of statement was made to IOM, certainly on your understanding it would have been a mistake?

A In terms of sorry the----

Q In terms of a derogation agreed by the health board from 10 down to four.

A Yeah. There was it was never 10 to four; it was always six to four.

Q Were you surprised whenever the IOM reports came back and they were saying there was there was non-compliance issues?

A Yes, it was-- very surprised.

Q And again is that because Mott MacDonald were not viewing the technical guidance in the same way, and interpreting it in the same way, as IOM were?

A I'm not sure if it was an interpretation. I think it's back to the room function and the clinical activities planned for those rooms. Certainly, as I say, all the discussions we had was that these were normal bedrooms, and the clinical activities were those of a normal bedroom, so it came as a complete surprise. It wasn't like this was just a quick discussion. This was discussed from July '16 extensively through to probably-- it was discussed in part through to probably the settlement agreement, so over a period of two years. So this issue was getting discussed, and it was always getting discussed in the context of, it's a general ward for 20 rooms or it's a normal multi-bedded room. I don't recall any discussions that there was an elevated ventilation requirement for these rooms.

Q Briefly, we have taken you through the documentation and there is no dispute that a generalised risk assessment was sent to Mott MacDonald saying, "These rooms are in critical care."

A Yeah, absolutely. I agree with that. As I say, I would need to ask the technical team, but certainly my reflections/thoughts are that they looked at the room function and it was classified as a normal bedroom and the clinical activities had been changed from critical care activities to normal bedroom activities, so there was a conscious change to go from a critical care to a normal bedroom activity for those four rooms.

Q So again, just so I am understanding this, your understanding of Mott MacDonald's position was, yes, there is a critical care area, but not all critical care areas would require the enhanced ventilation requirements?

A Yes, so I don't know what Mott MacDonald's position is on it----

Q I am talking about the time you worked for Mott MacDonald, so I am not meaning to ascribe institutionally your views to Mott McDonald and vice versa.

A Yes, certainly that was all the discussions I'd ever had, that they were generically talking about 20 multi-

bedded rooms and 14 of those were essential to be negative or balanced.

Q Whenever the IOM report came out, Mr McKechnie did not agree with IOM's views in terms of the testing, did he?

A I'm not sure if I was involved. I've seen subsequent correspondence to reflect that, but I'm not sure if I saw that at the time.

Q Okay. Again, you might not have seen it at the time, but just in fairness to you, if we could then look to bundle 7, volume 1 at page 308. Bundle 7, volume 1, page 308. It is not an email you are copied into, Mr Greer, but it is from Stewart McKechnie of TÜV SÜD. If we just pick matters up at the third paragraph, Mr McKechnie states, "Post tender and during construction stage, Infection Control indicated that they wished particular conditions for both these Room types, which after extensive consultation and review were subject to change orders by NHSL to MPX." Do you see that?

A Yes.

Q And then if we look over the page onto page 309, there are various references to 10 AC/HR, +10PA, SHTMs, HBNs and then HBN 23, and then after that Mr McKechnie states:

"… and can find no relevant guidance which correlates with what is now being asked for here.

"The only areas detailed with this level of ventilation and pressure are Isolation Rooms which we already have in the area and which are serviced accordingly. However, the +10PA for isolation rooms is maintained within the Lobby area, not the room itself which is balanced."

Do you see that?

A Yes.

Q If we skip the next two paragraphs, Mr McKechnie states:

"Our dilemma therefore, is that statements are being made stating the rooms are not in accordance with SHTM 03-01 without substantiation which in our opinion we cannot accept this as a basis for design."

And then the final paragraph:

"However, we need clear and concise briefing, as to what operating standards are required, and would categorically state that referencing SHTM 03-01 does not in our opinion provide that."

Do you see that?

A Yes.

Q So again, do we see

once more two schools of thoughts in terms of how you interpret the guidance? You have got IOM Ltd on the one hand saying, "It has to be a particular pressure regime and a particular number of air changes," and then you have got Mr McKechnie on the other saying, "No, it doesn't, that's not right, the design complies with the published guidance."

A Yes.

Q And again, just perhaps drawing on your experience in both the private sector and the public sector, do you find it surprising that even at this late stage in proceedings there is still this level of dubiety in relation to what the published guidance means?

A Yeah, I think it potentially goes back to my point about the new SHTM 03-01 I think is clearer and I think there was more room for interpretation in the old SHTM 03-01. I think for me, if the room function had been defined differently and the clinical activities have been defined differently, I would imagine the Mott MacDonald team would have come to a different conclusion which I think would differ to Stewart's opinion. But as I said, I'd probably leave that to mechanical engineers to decide that.

Q But in the period that follows, the Inquiry has heard evidence

that effectively there is a further Settlement Agreement, so it is High Value Change Notice 107, Settlement Agreement 2. Were Mott MacDonald involved in that process?

A Yes.

Q And what was Mott MacDonald's involvement?

A It was effectively the same role as we've had through the construction phase. The scope didn't change. We had a project management team. I think the individuals had changed: Kamil had left Mott MacDonald by that point and Kelly came back from maternity, so it was really Kelly and myself from a project management function, and then we carried on doing our reviews on the remedial works beyond that as well.

Q And in terms of the agreement that was captured in High Value Change Notice 107, that is to change the ventilation parameters for critical care rooms from the balanced and negative four air changes per hour to positive pressure and 10 air changes per hour. Is that right?

A Yes.

Q In terms of that change, did Mott MacDonald undertake any design review or undertake design responsibility for that?

A In terms of the high value change itself?

Q Yes.

A I think we did review that high-value change, yes.

Q But were Mott MacDonald taking design responsibility for the final solution?

A No. I think we were asked to. I think my understanding of it was that written into SA2 was a requirement for various parties to provide design assurance, but I don't believe Mott MacDonald were consulted on that part of it and it was something that Mott MacDonald couldn't offer at that point.

Q And again, is that consistent with really what you have told us the whole way through, that that simply was not Mott MacDonald's role and they were not going to take design responsibility at the end of the project?

A Yes, there was the-- I think there's two things. One was the scope part of it that wasn't part of our advisory service or project management services, and then the second part was that Project Co, again, for the remedial works-- That was Imtech doing the remedial works. I think Project Co employed them directly and O'Leigh (? – 01:23:16) were the designers, so if Project Co had their own design team, I'd say my thoughts are you can't have two sets of designers on the project, otherwise there'll be different design solutions presented, so one party have to be the designer and Mott MacDonald with NSS and John Reiner, the AE, were providing the reviews to support the Project post design.

Q Okay, so----

A Sorry.

Q No, please, go on.

A I was just going to say that I think that in this instance, in the remedial works, it was an Option E contract, so I think it moved to an NEC Option E, so cost-reimbursable. And there was a lot of pressure, obviously, on the Project by that point, but commercial pressure wasn't one of them, and I think certainly there was a distinct change in collaboration at that point between all the parties. I think that part of the process worked really well.

Q Okay. If I could just ask you to have in front of you, please, bundle 3 at page 943. Bundle 3, page 943. This is a document headed up "Response from Mott MacDonald, technical advisor 04/05/20", which I think is the text of an email from yourself to Brian Currie. It begins by

stating:

"Brian,

"Further to our previous discussions and your email dated 1st May 2020 requesting we provide an assurance statement for inclusion in SA2.

"Our Advisory Services are inconsistent with providing a Design Assurance Statement, and as such I hope you can understand we are unable to do so. Any assurances regarding design compliance, if they are required between the Board and Project Co, we believe should be provided by Project Co."

Do you see that?

A Yes.

Q If we skip towards the penultimate paragraph, you say, "We cannot confirm that Project Co's design will meet the requirements of Part A without undertaking design, and we cannot be Designer and client advisor at the same time."

A Yeah, I see that.

Q So if we could look on to page 1433, I think you had mentioned that there was some form of statement that was provided by Mott MacDonald. Is that right?

A Yes.

Q So is that what we see here, the document dated 18 May 2020, "MML Advisory Services Statement"?

A Yeah. I think the basis of it was consistent with the email that you just had on the screen. It's the same kind of principles in terms of not being able to undertake the design or provide the design assurance, but we were able to comment, query and challenge the design.

Q So effectively a soft review, but without actually undertaking any design responsibility for what is included within High Value Change Notice 107.

A Yeah, and I think from memory, the NSS had a very similar response and so did John Reiner. I think all three reviewing parties were the same. They were not exactly the same letters, they all drafted individually, but the outcome was effectively the same: we challenged it, queried it, but couldn't actually take on the design responsibility itself.

Q So, if we look to page 1433, which is a letter of 18 May 2020, second full paragraph. It states:

"We confirm in our capacity as Lothian Health Board's Technical Advisor we have undertaken a review, commensurate with the time and

information made available to us, of IHS Lothian Limited's design response to HVC 107 as detailed in the following documentation as exists on 13th May, 2020."

There are then various documents set out. After the bullet points, it continues:

"In accordance with the findings of our Advisory Services Note dated 18th May 2020, and without prejudice to advice previously provided to the Lothian Health Board, we consider that good progress has continued to be made by Project Co (Imtech) and we have received assurances from Project Co on many issues. Whilst there are ongoing issues to be resolved with the design (including but not limited to the matters raised in our Advisory Services Note), on the basis of those assurances we have not identified significant 'red flags' at this time which in our opinion would prevent Project Co ultimately meeting the requirements of Part A of the Scope, subject to Project Co"---- Do you see that?

A Yes.

Q It is again quite a high-level review simply stating, "In terms of our review, there are no particular red flags identified."

A Yeah, I mean, given the circumstances here, there was a lot more scrutiny on the Project at that point, so yes, the principles were the same, albeit you can imagine the focus on the Project at this point.

Q And then I think that is clarified over the page, on page 1434. The letter continues:

"In making the above statements, we highlight;

- There is not an acceptance on our part of any design liability,
- Project Co remains solely liable and responsible for their design and construction meeting the requirements of Part A of the Scope. We are not in a position to provide any design assurance as we cannot be Designer and client advisor at the same time."

You see that?

A Yes.

Q And that is effectively all consistent with what you set out in your earlier email to Brian Currie.

A Yes, yeah.

Q Mr Greer, that concludes everything I want to ask you about the Project itself, but obviously, given your

experience, the fact that you have worked in the private sector and you now work for NHSL, I would be interested just to ask you some questions about your views on a range of issues that have happened after the Project, including the creation of NHS Scotland Assure. In your work, are you familiar with the body that has been created called NHS Scotland Assure?

A Yes.

Q And just, again, explain in your own words, what do you understand NHS Scotland Assure is?

A So NHS, I think probably from our work in the remedial works, that was probably the first almost incarnation of Assure. That was the NSS team undertaking reviews similar to the Mott MacDonald reviews on the remedial works. So NHS Scotland Assure were set up after that to undertake Key Stage Assurance Reviews, so a review at OBC, a review at FBC, a review at various points in the construction phase and through the commissioning.

Q And in terms of these Key Stage Assurance Reviews, now that you work for NHSL, have you had any experience of going through Key Stage Assurance Reviews?

A As I say, the project I

was working on was the National Treatment Centre Lothian at St John's, and we were working towards our OBC KSAR when, in December, all capital projects including the NTC Lothian was paused. So we never got to a formal OBC KSAR, but we did have really good engagement with the team. We instigated a pre-KSAR workshops so that the design team presented over the five-- I think four or five disciplines, they presented to the Assure team and I think they were well received. As I say, the Assure team, it was Tracey Mitchell, the PM, and Thomas Roger, the kind of-- the lead, and they had really good engagement with Bill Connolly from a fire perspective.

Q Do you think the Key Stage Assurance reviews are going to be a positive step for major hospital bill projects?

A I think they are. They will definitely help reduce the risk of errors, and I think the key there is they will reduce but the reviews won't be able to, in my view, they can't eliminate the risk of errors. So I think the conversation, as I say, that the processes assesses are still early in their development and I think there's a-- there's part of it is we need to get-- we need to get the right balance

between reducing the risk of errors versus the impact it's having in cost and programme, because I think that they're still-- we're still, as a group, learning to do about how we how we do that.

Q So do you think there is weaknesses in the Key Stage Assurance Reviews at the moment that could be improved upon?

A Yeah, I mean there's easy wins in terms of there's a lot of duplication, so we've still got the ENDAP process, National Design Assessment Process, we've got a new SDAC process, Sustainable Design and Construction, and we've got the KSAR process on top of that, and there's a lot of duplication between those three tasks and I think we're all aware of that and it's-- it just creates extra time and money that, at the minute, we don't have to go through those three individual processes.

I think the other thing is the-- one of the concerns raised by the design team working on NTC was the-- you sometimes get one set of reviewers at an OBC and then, or certainly in our case, the pre-OBC KSAR, and then you'll get another set of reviewers at OBC and then you'll get another set at FBC which, again, there's-- back to an interpretation of guidance. I think

other health boards have struggled with that, where they're getting inconsistent feedback and therefore changes to the design or construction.

Q In terms of NHS Scotland Assure, one of the other things it is is a Centre of Excellence. It is somewhere that health boards could go to to get help with the interpretation of guidance. Do you see that as a positive step?

A Yes, absolutely, and I've used certainly Bill Connolly from a fire perspective. We've had good dialogue with Bill on the National Treatment Centre and it's been very helpful.

Q And is that aspect of NHS Scotland Assure, is that any different to what HFS used to provide before it was created?

A It's difficult for me to say. In my previous role, I didn't really have direct engagement with the HFS or on the NPD programme. That was more managed by the NHS team.

Q Thank you. If I could ask you to have in front of you bundle 9, please, page 4, which is the target operating model for what became NHS Scotland Assure. So bundle 9, page 4, and if we could look on to page 15, please. So we see a small table with what's new, what the current state was and then what the future was to be in

terms of NHS Scotland Assure. In terms of the current state, you will see the final point on page 15 is that I think an identified problem was silos between professions. Certainly, in terms of your work in the RHCYP, did you think silos between professions was a problem?

A As in between architecture and M&E and----

Q I think that should mean clinicians, estates, engineers?

A No, I thought the NHS Lothian team was brilliant, to be honest. They worked. It was a really challenging project. Brian led the team brilliantly and I didn't get that feeling from my perspective on it, no.

Q So from your perspective, that was not something that needed to be fixed?

A No, not on the Edinburgh project, no.

Q Okay, and if we look to the-- some of the future states, some of the things that NHS Scotland Assure are to do, one is to "jointly sign off documents on builds and major refurbishments at key stages in the lifecycle." Is your understanding about Key Stage Assurance Review that it is going to be joint sign off between NHS Scotland Assure and the Health Board?

A That's not been my understanding to date. I'm not sure when this document was produced.

Q So this is an earlier document, so this was the target operating model and then it got refined before NHS Scotland was set up.

A Yes. So the current state is not that-- That's not my understanding of the process. It's the Assure team, as I say, they do really valuable reviews but they don't jointly sign off. They provide an audit report, recommendations, and then it's up to-- it's really up to the Health Board to then action those and then the Health Board can't proceed to the next phase until they get the support from the KSAR team.

Q From a health board perspective, would it be a positive step if you had a Centre for Excellence that did jointly sign off these types of projects?

A I think, certainly from a resource perspective, there's-- there are challenges just now to get the right resources on capital projects. There's a lack of available IPC, there's a lack of estates, so having a resource pool I think would be helpful. Yeah, I guess I'd need to probably see the detail about what the joint sign-off would entail and how that would all work

together. At the minute, Assure-- my understanding is Assure are very clear that it's (inaudible – 00:38:02) is the Board's responsibility. I think there's probably other complications in terms of the regulatory obligations on health boards to ensure the facilities are safe.

Q Do you think that is the right model though, in terms of all of the liabilities still sitting with the Health Board if you have a Centre for Excellence?

A Again, I think that's probably back to my point earlier, I think really we need a full rethink about this. So back to NPDs make that difficult, even design and build could make that difficult as well, so we need-- again, I think the whole procurement contract and delivery needs a full rethink in terms of how we want to, and I think probably potentially keep control of more of the risk I would have thought going forward.

Q And again, I think it is quite clear that NHS Scotland Assure is not going to be an inspector and it is not going to have a regulatory function for these projects. Do you think that is a good thing or a bad thing?

A I think back to the point we were discussing earlier about the guidance, I think the key for me is getting the-- an elevated status in the

guidance so we know which ones are the mandatory parts and which ones are the-- are purely the guidance. For me, that would be-- if we were to do anything right now, as opposed to that point you were making, I think refining the briefing documents, refining the guidance documents so we've got a really good starting point for a project as opposed to having all the interpretation that's currently there.

Q And do you think it would be simpler if there was just a mandatory legal standard that had to be complied with as opposed to a document that is guidance that can be derogated from if the circumstances require?

A It's difficult because there's so-- every building is unique, and therefore I think having-- I think there's probably elements of that that could be, but trying to have one size fits all, that could be a challenge in healthcare.

Q The final document I would ask you to have a look at please, Mr Greer, is bundle 1, and it begins at page 2263, which is the latest iteration of SHTM 03-01, and I think I had you noted earlier as saying you thought this is perhaps not perfect, but it is a vast improvement from the 2014 version. Is that correct?

A Yes.

Q And can you just explain, what is better in the 2022 version as opposed to the 2014 version?

A I think that particularly-- I mean, focusing in on the critical care areas, they've defined the level of patient that would trigger that enhanced ventilation for a critical care area. So I think that starts to close the gap, where before I think----

THE CHAIR: Sorry, my fault, Mr-- apologies, Mr Greer. Could you start that, your answer, again? I just----

A Apologies, apologies. Yeah, so I think the new SHTM 03-01 has defined critical care areas. So my understanding is that it now sets out the level of patient that would trigger the enhanced ventilation, whereas the old SHTM didn't. There was just a Table A1, as-- Appendix 1, Table A1 that had the ventilation rate in it.

Q Okay, thank you.

A And I think the formation of ventilation safety groups, I think, is a good initiative as well.

MR MACGREGOR: Okay, well, if we could just look to that-- to page 2286, just so we are talking about the same thing. At the bottom, 4.4, is this the multidisciplinary group referred to at paragraph 4.5?

A Yes.

Q Why do you see that as an improvement?

A I think it just-- it gives a route of escalation for ventilation-related issues, and I think beyond this, Lothian have set up a-- it's still in-- I understand it's still draft format just now, but they've set up an operational procedure for capital projects where we're looking to set up a project ventilation safety group, potentially also a site. So take my NTC project. You would have an NTC project ventilation safety group, you would have a St John's site safety group and then you would have the broader Lothian-- Pan Lothian safety group. So I think the initiative is good. The challenge is, back to my resource issue, there's simply not enough people to actually do that, and therefore what tends to happen is you end up just going to the Pan Lothian because, at the minute, we don't have the resources to set up the local ones or the project ones.

Q Okay, and in terms of derogations, derogations would now have to be done through the ventilation safety group, but is there a standard form? If you are doing a project and you think that you need to derogate from guidance, you would do it through the ventilation safety group. Is there a

standard form that would be filled in so that there is a uniform way that derogations are done in every project in Scotland?

A No.

Q Do you think that would be a positive step if there was?

A Yes, absolutely. Yeah, so on the NTC, again, along with the Eye Pavilion project, we developed-- so we've developed similar-- we've development a room data-- developed a room data sheet process that we've shared with Assure to get their buy into that development process, and similar on the derogation, so we've pushed flowcharts and process diagrams for how we see the derogation process working and we've also done that from a-- Sorry, there's another one as well. I can't remember right now but, yeah, we've done a number of initiatives that we're trying to standardise the documents that-- so that there's a standard template to work off and get Assure to buy into that template.

Q A number of witnesses that have given evidence to the Inquiry have suggested that standardisation in this area so that different health boards are not going off doing their own things. Standardisation would be a massive improvement: would you agree with that?

A Yeah, absolutely. I think, again, for me, it would just-- given the pressure on resources just now, delivering these projects, I think any standardisation where we've got set templates, I think the big one for me is the briefing documents. Having a-- so the Board's construction requirements we've spoken about a lot here, there isn't a standard template for framework projects and how briefing should work, so we've currently set up an initiative in the Scottish Property Advisory Group to develop that: a standard approach to briefing.

THE CHAIR: Sorry, a standard approach to?

A To briefing documents.

Q Briefing?

A Yes, so the likes of the Board's construction requirements. So there's no template document that you can use. I think for an NAC framework project, there isn't a template document you can call upon. The most recent was probably the SFT document that was done for NPD projects, but that's not appropriate for an NAC contract. So we're working on trying to create a new template for those, and even the likes of clinical output specs, which another document, there's no-- there isn't a standard. This is the best template for

clinical output specs or non-clinical output specs. Every project, we start from scratch.

MR MACGREGOR: In terms of your reflections, I think, on the project in particular and how perhaps these types of projects could be done better in the future, we have covered a number of issues, but you have obviously had a long time to think about this project. Do you have any other issues that you would want to raise in terms of how you think these types of projects could be done and better in the future?

A I think I've probably covered most of the points. I feel, for me, it's a full review back to what is the ideal contract, what is the best contract and procurement set up for these projects and start from there, as opposed to having to go down a PFI type model which, in the current environment of healthcare, I'm not sure if that's the right route to go. So I think a full review, I think, is needed.

Q Okay, thank you. The final few points I want to ask you about, Mr Greer, just in relation to the second statement that you provided to the Inquiry. Again, we have covered your qualifications at the start, but you are a civil engineer, is that right?

A Yes, yes.

Q And you reviewed the report that was produced by the building services engineer, Mr Maddox, is that right?

A Yes.

Q I take it the Inquiry should understand that because you are not a qualified building services engineer, that you are not really looking to take issue with any of the opinions that are offered by Mr Maddox in his report?

A Absolutely not, no.

Q And again, you cover your understanding of a lot of documentation and what contracts mean within that statement. Should the Inquiry understand that you are doing that to helpfully try and provide your own personal views, but you are not trying to offer an expert legal opinion on what the correct contract interpretation is?

A Yes, absolutely.

Q Thank you, Mr Greer. I do not have any further questions at the moment, but Lord Brodie may have questions and there may be some questions from core participants, but thank you for answering my questions today.

A Thank you.

Questioned by The Chair

Q (Inaudible – 01:47:55) it is a problem with my noting as much as anything else. You were asked some questions about NHS Scotland Assure and you mentioned the duplication of the number of forms of review that are now current, and it really just was to make sure that I had got a note of them because I think there was maybe one or possibly two acronyms that I missed. You mentioned the ENDAP process.

A Yeah.

Q As I understand it, one of the innovations of-- associated with NHS Scotland Assure is the introduction of the Key Stage Review process.

A Yeah.

Q Now, I think you also mentioned either one or two other processes which I just missed.

A So the third one was the SDAC process, which is the Sustainable Design and Construction process. There's a new guidance document which has been produced by NHS Scotland Assure that new projects need to follow relating to SDAC.

Q Right, so if I pursue that under reference Sustainable Design and Construction process.

A Yeah, I can't remember the code right now, but I'm happy to share the code afterwards.

Q Right, fine.

A There's an SHPN, I think it is, which sets it out but, as I say, I'm happy to share it later.

Q Thank you. Now again, should we take 10 or 15 minutes to check?

MR MACGREGOR: I think if we could possibly take 15 minutes. It is just one of the core participant's counsel is dialing in remotely, so I think 15 minutes would be helpful.

THE CHAIR: Right, very well. Mr Greer, I will ask you to wait for maybe another 10 or 15 minutes in the witness room just to check if there are any other questions arising. Thank you.

THE WITNESS: Thank you.

(Short break)

MR MACGREGOR: There's no further matters arising, my Lord. Yes, please.

THE CHAIR: Hello? No more questions, Mr Greer, and that means you are free to go, but before you do go, can I just express my thanks on

behalf of the Inquiry for your help. I mean, you have come twice to give evidence. You have provided three statements. I am very conscious that the provision of these statements takes a lot of time and requires looking at documents and finding documents. There is a lot of work in that, so can I just say thank you for that? And, as I say, you are now free to go. Thank you.

THE WITNESS: Yeah. Thank you very much. Cheers.

THE CHAIR: Now, we should be able to begin again tomorrow.

MR MACGREGOR: Yes, it will be Mr Hall and Mr Pike tomorrow, and it will be Mr McClelland asking the questions, my Lord.

THE CHAIR: All right. Very well. Well, can I wish everyone a pleasant evening and, all being well, we will see each other tomorrow morning at ten.

(Session ends)

16:18