SCOTTISH HOSPITALS INQUIRY

Hearings Commencing
19 August 2024

Day 2
20 August 2024
Kerr Clarkson
Colin Purdon

CONTENTS

10:02

THE CHAIR: Good morning. I am conscious that yesterday I did not break after the witness had concluded answering questions from Mr Mackintosh as I have previously to allow legal representatives either to take instruction or, and I think we have one of the legal representatives is attending remotely, to allow for the possibility that legal representatives may wish to either have a moment to consider or, more specifically, to take instruction. So I shall try and remember to do that today, but I trust no one was inconvenienced yesterday. Now, I understand we are in a position to resume, Mr Mackintosh?

MR MACKINTOSH: We are, my Lord. Our first witness this morning is Mr Kerr Clarkson.

THE CHAIR: Good morning, Mr Clarkson, and seeing you, we may actually have met----

MR CLARKSON: We have.

THE CHAIR: -- at the Queen Elizabeth, because members of the Inquiry team, some time ago now, were given the opportunity of a walk-through and my recollection is that you were responsible for the part of that walk-through which took us through the-- I think, the basement water tanks. Right. As you understand you are now going to be asked questions by Mr Mackintosh who is sitting opposite you, but, first of all, you are prepared to take the affirmation?

MR CLARKSON: Yes, I am.

THE CHAIR: Right.

Mr Kerr Clarkson

Affirmed

Thank you, Mr Clarkson. Now, what I anticipate is that your evidence might take the best part of the morning or the whole of the morning. We will take a break for coffee at about half past 11, but something that is critical – if you want to take a break at any time, for any reason, without giving the reason, just give me that indication and we will take a break. So, if you feel just-- what I would like you to feel is totally in control of the situation, that it is your choice.

THE WITNESS: Thank you.

THE CHAIR: Mr Mackintosh.

Questioned by Mr Mackintosh

Q Thank you, my Lord. Mr Clarkson, I wonder if you could give me-- give us your full name and occupation?

A Kerr Scott Clarkson. I am currently a site manager for Operational Estates at the Queen Elizabeth Hospital.

Q And did you produce a written statement for the Inquiry?

A Yes, I did.

Q Are you willing to adopt that as part of your evidence?

A Yes, I am.

Q Thank you. Now, what I wanted to do is just to, in a sense, structure your evidence, to look initially at the various different jobs you have held within Greater Glasgow Health Board. So, from June 2018 to March 2020, you were an estates manager. What was your responsibilities then?

A Initially, because I was new to the NHS, I was asked to manage most of the retained estate buildings to get experience.

Q Now, this is a phrase that is often used. What is the retained estate building?

A It is buildings that are not the adults and children's building.

Q But it includes the laboratory block?

A Includes a large building, yes.

Q And the adults and children's buildings and the laboratory building were built by the Multiplex-led contractor development?

A Yes, they were.

Q So, in a sense, you have got the old Southern General buildings plus the laboratory block?

A Yes.

Q Right, and for those first not quite two years, what was your responsibility for that retained estate?

A I was looking after general estates management within a number of buildings, particularly buildings related to the University of Glasgow and some non-clinical buildings.

Q Now, in respect of the water system, were you the authorised person (water) for that part of the site?

A No.

Q No. Was there an authorised person (water) for that part of the site at the time?

A Yes.

Q And who was that?

A Mel Macmillan was appointed as an AP in June 2018 for the entire site.

Q The entire site. So, we just-- because we are having lots of witnesses, it is really good to get this clear in our minds. Whilst you were responsible for the retained estate as an estates manager, the authorised person for the whole site at that point from June '18 was Mel Macmillan.

THE CHAIR: Mr Mackintosh, you are going quite quickly.

MR MACKINTOSH: I am going to slow down, because it is-- So, you were managing the retained estate from June '18 to March 2020?

A Some of the buildings in the retained estate, yes.

Q Some of the buildings, but, in March 2020, I understand you took some responsibility for the whole site?

A I was promoted to site manager for operational estates.

Q Now, can you help us, while we are here, what the difference-- what the opposite of operational estates is? Because I heard operational estates talked about, but I also heard about other parts of the estates world.

A So, can I go back?

Q Yes, of course.

A Sorry. I was also appointed as an AE in August, amongst a number of AEs in August.

Q So, what is an AE?

A Sorry, an AP, sorry. An authorised person.

Q AP? So, you were the operational manager for the----

A Some of the buildings in the retained estate and also, along with another-- number of others appointed, went in training to become an authorised person for water.

Q And when was that?

A That was in August 2018----

Q Of 2018?

A -- I went and did my training.

Q So, from June '18 into August '18, the only authorised person (water) on the site was Mel MacMillan, but after that were more of you?

A There were more. Yes, so it was the-- the goal was to try and get more people trained to support Mel as and when necessary.

Q And when you took over as site manager, what is operational estates?

A Operational estates is looking after-- We've got corporate estates and operational estates. Operational estates is looking after day-to-day planned and reactive maintenance and looking after the compliance with the various SHTMs, health and safety legislation, etc.

Q I want to just clear that. So, it is planned maintenance and reactive maintenance?

A Yes.

Q And it is compliance with guidance and regulations?

A Yes.

Q And what is corporate estates?

A Corporate estates encompasses compliance, as in arranging risk assessments into the various SHTMs and they also have minor works team in there and they have the fire team as well now, fire officers.

THE CHAIR: Sorry, the question is what does corporate estates include?

MR MACKINTOSH: So, corporate estates----

THE CHAIR: I got compliance.

MR MACKINTOSH: Compliance.

A Compliance, minor works----

Q And the fire team.

A And fire team.

THE CHAIR: Sorry, minor works and----

A Fire.

Q Fire. Thank you very much. Mr Clarkson, I am trying to note, and, you know, it is not an absolute full note, but just as I asked Mr Mackintosh if he could maybe go a little slower, bear in mind that I am trying to pick up everything you say.

A Okay.

MR MACKINTOSH: I want to just understand the boundary between operational estates and corporate estates in respect of compliance with guidance and regulations, so I am going to ask you a question.

A So----

Q Well, the question was, what-- who is in charge of seeing that, day-to-day, the site is managed in compliance with the guidance?

A It will be operational estates.

Q Who is in charge of making sure that the systems exist for that to happen?

A I think it'd be collective.

Q Collective. So, what would corporate estates be doing?

A They have a dedicated team of managers who specialise in specific topics such as electrical compliance, ventilation compliance, water compliance. So they manage the risk assessment process. They produce monthly reports on performance and risk assessments, i.e. audits. They arrange the authorising engineer audits as well.

Q So, they do the formal (inaudible)?

A Yes. They facilitate the process and do the monthly reporting through appropriate governance.

Q So, if we just take an example of an L8 risk assessment, am I right in thinking that it is the corporate side of estates that would order one, but it is the operational side that would go and do the works necessary to comply with its recommendations?

A Yes.

Q Thank you. Now, I wanted to understand how you related to two people in your work and we started talking about one, so we will continue with Melville Macmillan. So, when you arrived on site, he was the only authorised person (water)?

A As far as I can recall, yes.

Q Yes. Once you became the site manager, did he report to you?

A Yes.

Q Right. Before you became the site manager, to whom did you report?

A Colin Purdon.

Q After you became the site

manager, to whom did you report?

A Euan Smith.

Q Euan Smith, right.

A Well, initially, yes, Euan Smith, because Colin had moved on by then.

Q And in the-- Colin would have reported to Euan Smith before you took the job?

A No, Colin reported to-- it was Andy Wilson, initially.

Q Now----

A And Colin got Andrew's job.

Q This may turn out to be a slightly esoteric question, but I am interested to see how you respond to it. What is, in your mind, the objective for safe management of a water system in a hospital?

A To minimise the risk so far as reasonably practicable.

Q Do go on.

A To ensure compliance with the relevant legislation and the relevant SHTMs.

Q Thank you. Now, I want to ask you about whether certain things existed when you arrived on site and it might be that you either do not know or that they only existed for part of the site, so-- and please do say. When you arrived on site in June 2018, was there a written scheme that you were aware of?

A I became aware of a written scheme that Colin Purdon was writing. I am not aware of one before that.

Q Could I show you a document – slightly out of sequence, but I think it might help us – which is in bundle 18, volume 2, at page 872. It is document 110. We looked at this yesterday with Mr Watson. Is this the-- 111, sorry, which is-- Is this the document that was produced, as you understand it, by Colin Purdon that would have been around when you arrived?

A No, that looks like it was a template that was passed.

Q Well, the reason I say that is if we scroll on to page 877, it seems to have been partly populated, and I wondered if you recognise this document.

A I have never seen----

Q Never seen it?

A Other than seeing it yesterday, I haven't seen that document.

Q Well, we will ask Colin about that. That is fine. Thank you. So, if we can take that off the screen. Was there a Water Safety Plan when you arrived in summer of 2018?

THE CHAIR: Sorry, just so that I am keeping up, you were asked the question, "When you came on site in June 2018, was there a written scheme?" You answered that question by saying you became aware of it. Now, do I take it you became aware of that-- it in June 2018 or at some later date?

A It was after 18 June, but in 2018.

Q But you cannot say when?

A I can't remember when.

Q Thank you. Sorry, Mr Mackintosh.

MR MACKINTOSH: Might it have been when you were doing the training that year?

A Possibly, because that was August 2018. I knew Colin was-- had put together and completed the written scheme document.

Q Well, we will ask him about that. Thank you. Were you aware of a Water Safety Plan in 2018?

A No.

Q No? Have you subsequently discovered whether there was one at the time?

A I don't believe there was.

Q When do you think one was available?

A It depends on the definition of a Water Safety Plan. The written scheme is in accordance with the requirements of the SHTM. The Water Safety Plan is defined within BS 8680----

Q Right.

A Which I think is-- 2020 that legislation came in, or that guidance came in, because British Standards are guidance.

Q So, it may be that it would not be a Water Safety Plan before 2020?

A No.

Q Right. At the time you arrived on site in 2018, or indeed at the training for being an authorised person (water) in August 2018, were you aware of whether there was an authorising engineer appointed?

A Yes, there was.

Q Who was it?

A Dennis Kelly.

Q So, Dennis Kelly was in post in 2018?

A I recall meeting Dennis in 2018, I believe, and him carrying out the AE audit. It may have been 2019, but----

Q It is around about then?

A Around about then. Dennis will be able to confirm. Colin will be able to confirm.

Q Now what, from your point of view, were the differences in managing the water systems in the retained estate and the new building?

A I think in the retained estate, if we go to the adults and children's first, being a significantly larger building with significantly more water outlets----

Q So, the new building was bigger with more water outlets?

A More-- Yes, whereby the other buildings were much smaller and had smaller water services.

Q Might that have been because

they did not have single rooms with en-suites?

A A combination of both, because obviously the adults and children's building was built with having en-suite rooms, therefore, by default, having significantly more water outlets.

Q So, the adults and children had more water outlets, partly because of the single rooms?

A Definitely.

Q Definitely? Right. Now, in the new buildings, adults and children, what was the primary control mechanism for Legionella and pseudomonas?

A At the time, in 2018, it would have been the mains filtration.

Q And what role did temperature have to play in that control?

A Temperature-- If you've got the mains filtration, it would prevent any bacteria entering the water system to the hospital greater than 0.02 microns-- smaller than-- sorry, greater than 0.02 microns.

Q So, you saw that the filtration is the primary control?

A The control is temperature in any building. It's flow and temperature. Keep the water flowing, keep the temperatures correct.

Q And what temperatures should you be avoiding?

A For cold water, the water should remain below 20. For hot water, within a hospital environment, the water at the furthest away outlet should be 55 degrees, and you should generate that hot water at 60.

Q Thank you. Now, were there any connections, as far as you are aware, between the retained estate buildings and the new adult and children's building in terms of water?

A There is none.

Q None? Thank you. Now, you may not be able to answer this, and do say if you cannot, but from your point of view, knowing what you now know – and we will discuss what has happened since – were the control mechanisms in the adults and children's building that you have just discussed sufficient for that building?

A Based on the document that I co-wrote with Dennis in 2021, looking at the history of water management which also referred to Jim Leiper's report as well, where Jim Leiper was involved in assisting and writing this report----

Q Sorry, I am just going to stop you a moment, because it is important that we check the document references. Mr Leiper's report is the report produced after the 2015 DMA Canyon report came to people's awareness?

A Yes.

Q And it takes the form of a

review by Mr Leiper?

A Yes.

Q All right. Thank you.

A So, I'd never seen that report, but I was aware of the report in 2021 when we wrote the history.

Q Right.

A I don't think I've actually answered your question properly.

Q You have not yet.

A Sorry.

Q So, bearing in mind what you have learned, what you have thought about, do you consider that the control mechanisms you have just described of filtration and temperature were sufficient for a hospital of the nature that you ended up managing?

A I would say that there was evidence of lack of planned maintenance between 2015 and 2018, which supports-- which is part of the overall risk reduction strategy you have within a hospital.

Q Yes, but that did not answer my question either. So, I appreciate that you have described in your statement a series of steps – which we will go into in a moment – about how you changed the way the system was managed and you increased more maintenance and more scrutiny, more checking, and we will come to that, but simply looking at that, looking retrospectively with the benefit of hindsight at the building that you, as it were, inherited, do you think the idea that you could run a building like that with only filtration and temperature as the controls, was sufficient? Or do you not have an opinion?

A The guidance, the SHTM guidance, primarily talks about filtration and temperature control and flow, but, with hindsight, probably not.

Q Okay. Now, what I want to do now is ask you about the DMA Canyon report that came in in 2017. This is in----

THE CHAIR: Can I just reflect on that? You are taking your snapshot in 2018?

MR MACKINTOSH: Yes, I am asking about Mr Clarkson's-- No, I am taking his understanding now, looking backwards.

THE CHAIR: Indeed, indeed, but you are asking Mr Clarkson to look at the situation as it was in 2018.

MR MACKINTOSH: Yes.

THE CHAIR: Right, and you are considering the new adults and children building and you are talking about the fact that there was two mechanisms: temperature control and filtration. We are leaving aside, at least for the moment, as to whether these systems operated as they were intended to operate.

MR MACKINTOSH: Yes.

THE CHAIR: You are assuming they were operating as they were

intended to operate.

MR MACKINTOSH: I think my question assumes that, yes.

THE CHAIR: And Mr Clarkson, looking back, would say that these two mechanisms – assuming they were working – were probably not sufficient in themselves. I mean, have I followed the back and forward, Mr Clarkson?

A Yes.

THE CHAIR: Yes. Thank you.

MR MACKINTOSH: If I could get bundle 6, page 416 up on the screen, which is the 2017/'18 DMA Canyon report. Now, when did you first become aware of this report?

A So, this is the 2017----

Q Yes. If you look at the bottom of the page, you can see that we have inspection dates in September/October. The gap analysis is January, which of course is before you arrive.

A Yes.

Q So, I do not know whether it is when you arrive or later.

A It would have been later. When the 2018 risk assessment was being carried out, which was then published in 2019, my colleague, Mel MacMillan, and I were asked to attend a meeting with Colin Purdon and Andrew Wilson to look at the 2018 risk assessment actions and to complete those, and Mel MacMillan made the spreadsheets----

Q That is a long answer, but it is what I was trying to get to, so let us break it down.

A Yes, but the 2017 risk assessment, the actions were completed on Smartsheet by Colin Purdon and Andrew Wilson, so I think they were getting done in parallel.

Q I think we can get all that, but we need to do it in bits.

A Okay.

Q So, the first question is when you first become aware of this one?

A It would have been late 2018.

Q Late 2018, and at that point, you are working on the next one?

A Yes, we are.

Q And you-- discover is the wrong word. You learn about it because you are in a meeting with Mel MacMillan and Colin Purdon in late 2018, at which point you are discussing the next one.

A Yes.

Q And you are telling us that the outcomes from this one were dealt with by some other people----

A Colin and Andy.

Q Colin and Andy. So, Colin Purdon and----

A They were filling in, because I reviewed Smartsheet as part of the----

Q Just let us get the names, because we have got to get the names.

So, Colin Purdon and Andy who?

A Wilson.

Q Andy Wilson. So, they used a Smartsheet system?

A Yes.

Q And this is a computerised system?

A It's a software package which is very similar to Excel, but it allows more management of actions, if you want to----

Q So, for example, if they went and found something that is described in this report that required action, and they did the action, they would record it in a Smartsheet and you would notice?

A Yes, because it's logged the dates and times of when those actions were completed and by whom.

Q So, would it in a sense be a sort of summary of all that to say that in some time in the autumn of '18, when you are on site, you are relatively new, not only are you learning about a new one that is to come, but you are also noticing that actions have been taken about the previous one?

A Yes.

Q Right. Now, there is a document that I want to just understand more, that I am having difficulty nailing down what it is. It is in bundle 8, page 86. So this is a relatively long document in landscape format that the Inquiry has been provided with, entitled "Review of recommendations and actions arising from the reports of water systems at QEUH and RHC – Risk Assessment dated September 2017". Now, the problem with it is it does not have a date on it, and so I am suspecting it is talking about a document that is dated September '17, except the 2017 paper is not dated September 2017. So have you seen this before? We can look at the next few pages if it would help.

A I believe I have seen it.

Q Do you want to just jump forward a couple more pages? Does this ring any bells? Let us go back one page to 87.

A Yes, I have seen that document.

Q So, can you help us about when it would have been created?

A I think that was created in middle to late 2018.

Q So, we go back one page. Thank you. So, would that be at the time you have just been talking about, when you are aware of the Smartsheet work being done by Andy and Colin?

A Yes.

Q Right. Now, the next thing – I just want to make sure that we connect the dots together – is bundle 8, page 150. This is Mr Leiper's report, I think. Do you recognise it? Or can we move on a page and you will see it has quite an odd

format, that one.

A Yes. I haven't seen the report before until I'd seen it in the bundle, but I'm aware the report was carried out when we did the water history.

Q Thank you.

A Jim helped. Jim basically extracted some of the detail which we included in that report.

Q Okay. Can I just speak to my colleague? (After a pause) Now, I want to ask you about something in your statement. It is at page 105 of the hearing bundle. So the bottom of the page, you start off with:

> "I have been asked to explain what, on my appointment AP, I was told about the state of the water system at the QEUH/RHC and by whom. I have been asked if this was as I expected and, if not, why not."

And then you described your role. Go over the page, top of the next page. Here we are, and you described the various people, and you have described meetings with Colin Purdon, Andy Wilson, Mel MacMillan, about the actions required from the 2018 risk assessment. That is the 2018/'19 risk assessment, DMA Canyon----

A Yes.

Q I want to be clear about that. "Colin and Andy asked Mel to focus on those actions."

A Yes.

Q And those are the ones that we have just been talking about, that you were aware were being dealt with.

A That previous report?

Q Yes.

A No.

Q It is the one afterwards?

A Yes. That one there, I think, is in relation to the previous risk assessment. Mel was asked to work on the 2018 risk assessment.

Q Yes. So, the one that is being discussed in the third line on this page----

A Yes.

Q -- Mel is being asked to work on the 2018/2019 DMA Canyon L8 risk assessment?

A That's correct.

Q Thank you. Now, I wanted to just ask a little bit about the final sentence, which you said, "Personally, it was concerning that a large number of issues still appeared." I want to just check what you mean by that. What do you mean by that?

A What I meant by that is, given there was a pre-occupation risk assessment carried out in 2015, I believe those actions should have been completed – it's very reasonably practicable – before handover. To get to

2018 and still have so many actions outstanding was concerning.

Q Right, that is what I wanted to-- because I was not clear whether that was a reference to, still appeared to be outstanding or still appeared now as a new thing, and this is outstanding of the work that is missing?

A Outstanding from 2015.

Q Thank you. Right. If we can take that off the screen, please. There is some discussion in various reports about the Zutec system.

A Yes.

Q And also in your statement, you referred to a CAFM system.

A Yes.

Q Are they the same or are they different?

A They are completely different.

Q And what is the purpose of the Zutec system?

A Zutec has the operation and maintenance manuals from the builder. It's an external system which has all of the details from the construction, including all the drawings, schematics.

Q So it is almost a static system?

A A static system, yes.

Q A bit like an owner's manual?

A Yes.

Q Whereas, CAFM is a dynamic system?

A A dynamic system which-- Computer Aided Facilities Management software is used globally to manage planned maintenance and reactive maintenance, where you can define your PPM activities, that then automatically issues them to either service providers or to in-house staff, and reactive works can be raised by internal customers and they can raise those reactive jobs, and they're then issued by our supervisors to EDAs.

Q So, we heard yesterday from Mr Watson that there-- in his eyes, there had not been sufficient action on planned preventative maintenance in the years following the site handover. If that had been done as he anticipated it would have been done, that would have been recorded in the CAFM system and built into it, effectively, as a plan?

A Yes. I think it was one of the things that we included in the water history document from Jim Leiper comment that there didn't appear to be what is called the soft landings-- that's the word I use, there's a modern word for it, soft landings from handover where you get your defined PPM schedules.

Q So, effectively, there does not appear to have been at handover a PPM schedule set up for the building?

A Yes, so that you could appropriately resource that as well.

Q Now, have you ever been involved in starting the operation of a new

hospital?

A No.

Q No. Well, I will not ask you about how practical that is but that is what you are-- it would be on the CAFM then if it was. Right.

A Yes.

Q Now, one of the concepts that we are trying to understand in the Inquiry is the difference between commissioning and validation. Do you understand there to be a difference or are they the same thing in your mind?

A I know it's used a lot in ventilation.

Q Validation?

A Commissioning and validation, whereby you commission to the-- whatever the standard was set at or what the design was, and validation is to check that it meets that standard.

Q So, in the world of ventilation, the commissioning process is to check you have built it as you are supposed to have built?

A Yes, then the----

Q And the validation checks you have done the check?

A Yes, then continually validate.

THE CHAIR: Right. Can I invite you to correct me? I have had the occasion to look at SHTM 03-01 and I think I have got an understanding, which maybe you may wish to correct me, that commissioning is something you do with possibly discreet items of equipment plant, possibly as you-- possibly as you go along or maybe not long after that, whereas validation is something carried out at the end of the process to make sure that all the individual parts work together to meet contractual specification or if you are checking against the SHTM, the SHTM guidance. Now, have I got that right or am I wrong about that?

A You have that right.

Q Right, okay.

A So, that validation is what you do at the end to ensure that what you ask for----

Q The whole system works together.

A -- yes, was what was delivered.

MR MACKINTOSH: Now, that is ventilation.

A Yes.

Q If we switch over to water----

A Water.

Q -- does that concept translate or is it different?

A It's probably not used a lot, I think, within water. You commission systems, but then what you're testing is you're testing for Legionella bacteria or TVCs prior to handover.

Q Now, this may be just me----

A And that’s validating the water

system is safe or wholesome.

Q Again, correct me if I have got this wrong. Could it be that, in a ventilation world, there is not the same density of regulations around-- that there are for Legionella, pseudomonas, E. Coli in the water world, and therefore you probably do not have the validation because you have to do all these other risk assessments? Is that a reasonable inference, or----

A It probably is the case, yes, that given all of the health and safety legislation that sits behind with L8, HSG 274, which is the health and safety guidance, there's probably a lot more from statute.

Q So, that means that if you are looking at the water system-- well, we will come back ventilation, the water system through the eyes of Zutec, you should find the commissioning data in there?

A Yes.

Q But there will not be validation data in the traditional sense of ventilation?

A There should-- As far as I am aware, it should be. The validation should have been part of the----

Q For water?

A No, sorry, for ventilation.

Q We are staying on water.

A For water?

Q You will just find the-- you should just find the commissioning stuff?

A You'll find the commissioning.

Q What----

A There should also be----

THE CHAIR: Right, and in relation to a water system, does my distinction between commissioning-- you are saying there is not a validation step----

A Not in water.

Q -- because what you are concerned with is output, in other words, the quality of the water.

A Yes.

Q But in the course of constructing a water system, you will, as described before, in relation to a particular item of plant, commission-- commission it in the sense of saying, "This item is doing what it is intended to."

A If it's operational, it means-- Yes.

Q Thank you. I am sorry to be so pedestrian, but I want to make sure that I am following it.

MR MACKINTOSH: So, that prompts a series of questions. So, when you look-- you looked at the Zutec system as a user, was there commissioning data about the water system, in whole or in part?

A I don't know. To be honest, I don't know.

Q You do not know. Okay.

A But I'm aware there was a

sampling was in there as well.

Q Well, I was going to come to that.

A Yes.

Q So, there is commissioning data for water, you do not know.

A Yes.

Q When you come to – just because you are here – ventilation and the Zutec system, was there commissioning data for ventilation in the Zutec system?

A I haven't checked the vent-- whether it was there or not.

Q And, presumably, therefore, you would not have checked whether there is validation information?

A No.

Q No, okay. In the Zutec system, should you be able to find drawings for, effectively, everything?

A Yes.

Q Were there drawings, effectively, for everything?

A There seems to be drawings missing.

Q And what sort of percentage approximately, over the years, have you noticed?

A Probably a small percentage.

Q Small percentage. Under 10 per cent, sorry?

A Probably, yes.

Q Probably, okay.

A But I'm not looking at everything, so----

Q No, I realise that. I suppose I am asking the question because I am assuming that, of occasion, you require to look for drawings----

A Yes.

Q -- and most of the time you find them, but sometimes you do not.

A Sometimes you don't. Sometimes there'll be a blank page.

Q Right. Now, when it comes to water testing results from before occupation or handover, are those the results you would be finding in Zutec?

A I don't recall actually seeing them in Zutec. I remember that ALcontrol were requested to do sampling, I think.

Q ALcontrol?

A ALcontrol.

Q And so where would you have got those results from?

A There were spreadsheets in the estates' drives as part of commissioning.

Q So----

A Validation, rather.

Q -- if the impression that you are giving us is that some of the results was in Zutec, some of it was in spreadsheets and a small amount was not there at all, is that how it is supposed to be or is it problematic in any way?

A I'm starting to doubt myself of

whether there is the data in Zutec for the----

Q Well, we will ask some other people. That is fine.

A Yes.

Q If you cannot remember, that is----

A I am aware there was the ALcontrol spreadsheets which were created, because I looked at them as part of the overall history.

Q Yes.

A Which indicated there was a number of out of specifications prior to handover.

Q Now, I wanted to turn to a series of events that you end up-- I think you have some involvement in. I appreciate you may not be the main mover in many of these and some of them will have happened just before you arrived, and so do not hesitate to tell me that you do not know. There seems to be some suggestion that, in respect of the Horne Optitherm taps----

A Yes.

Q -- there should have been some sort of scheduled maintenance in place when the hospital opened. Is that something you have heard of?

A Yes.

Q And was it in place when the hospital opened?

A There was a lack of planned maintenance in the Horne Optitherms.

Q Sorry, I just missed that, a lack of----

A A lack of planned maintenance.

Q Right.

A And the only reason I know is because I wrote about it.

MR MACKINTOSH: Right, so you investigated it, effectively?

A Yes.

Q And this planned maintenance would have involved flushing them at a regular or appropriate interval and cleaning them?

A The flushing of them is part of the daily cleaning routine carried out by either facilities colleagues or clinical staff as part of the guidance. Over and above that, there's a requirement within-- to do TMT maintenance.

Q The TMT maintenance is the----

A Thermal mixing cartridge, which is inside the tap.

Q Yes, because we have heard evidence that the advantage of the Horne Optitherm taps is that the mixing occurs in the tap, not behind in the wall.

A Yes, because you have-- a TMT is a thermal mixing tap, you have a TMV, which is a thermal mixing valve. The valve sits behind a collection of taps, then you end up potentially having-- if

somebody keeps using the one tap, let's say out of a selection of three, theoretically, the other two might not be getting used so that little bit of pipe can become a dead leg. So that's why you fit TMTs rather than TMVs.

Q But these particular TMTs required a maintenance regime?

A All TMTs require maintenance.

Q But for these ones, the maintenance regime, when was it actually started?

A There was some started in 2019, doing six-monthlies, which was a SLAM test on them.

Q A what test?

A A SLAM test. Basically, it's to check that the safety device works. The purpose of the TMT cartridge----

Q Every time you use a jargon, I am going to stop you and tell you-- ask you what it means.

A My apologies.

Q What does SLAM stand for?

A It's basically to ensure that----

Q I mean, come on, what are the letters? It means something.

A No, it just basically-- it means that the-- in the event that you lose the cold water to a tap----

Q Yes?

A -- the tap shuts itself down. Slams shut, basically.

Q Ah, it is a safety system?

A A safety device to prevent scalding.

Q So, in 2019, they started maintaining the taps----

A Yes.

Q -- with a particular focus on the SLAM function?

A Yes.

Q Are you aware of a meeting in 2014 – this is well before you got involved – about these taps when-- others will tell us exactly what happened, but there seems to have been a suggestion that there required to be some form of particular maintenance regime for these taps. Is that something you have heard of?

A Yes. Retrospectively, yes.

Q So that particular maintenance regime, when did that start?

A As far as I'm aware, it's the same maintenance.

Q The same maintenance. So it is 2019, in your memory?

A Yes.

Q Right, thank you. Now, I want to just turn the chlorine dioxide system----

THE CHAIR: My fault for not keeping up. So, in relation to the thermal mixing taps----

MR MACKINTOSH: Yes.

THE CHAIR: -- the planned maintenance began in 2019?

A I think-- looking back at history,

I think there were some TMTs getting maintained before that but not them all.

MR MACKINTOSH: Not them all. Is there any particular person who was involved in doing that maintenance we should be asking?

A I would suggest Ian Powrie.

Q Well, we will speak to him on Thursday, so we can add that to the list. Right. I want to turn to the chlorine dioxide system. Now, if I understand it correctly, it would have been being installed soon after you arrived at the hospital?

A Yes.

Q Did you have any involvement in its installation?

A Myself and Mel Macmillan facilitated a couple of night shifts so that the pipework could be modified to incorporate the chlorine dioxide plant.

Q From your point of view, how did the chlorine dioxide system's arrival change the way you manage the water system?

A It offers a secondary-- You've got your filtration, you've got your temperature control, you've got your moving water. Chlorine dioxide is an effective biocide against any bacteria within a water system, and is widely used globally.

Q From the point of view of-- as a system operator, does it have any downsides for the physical part of the system?

A If the chlorine dioxide levels-- Chlorine dioxide, it's a balance, because it can end up corroding components within a water system. It reduces the lifespan of a----

Q What sort of components are at risk, or what materials?

A Metal.

Q Metal. Any particular metals?

A They think stainless-- No, it shouldn't affect stainless steel. It will affect other metals, but (inaudible)----

Q Right. Well, if you do not know, we will ask someone else. From your point of view as-- of an operator, does this issue with the materials cause you to change the way you do your planned preventative maintenance? Are you on the lookout for such faults, or is it just so-- takes so long, it is not a problem yet?

A It's not a problem yet. It will-- It reduces the life of your overall system, because it can, depending on the level, start to have an effect.

Q One of the things that has been raised with us is-- an issue with managing water systems that use chlorine dioxide is that you have to keep the concentration of the chlorine dioxide in all parts of the system above a certain level.

A Yes.

Q Does that-- Well, how does that work with dead legs or with very long pipes that are not well used depending on your point of view?

A The chlorine dioxide at Queen Elizabeth is dosed directly into the main tanks, and----

Q And this is in the basement plant room?

A Yes. There are remote stations in various plant rooms throughout the hospital which are monitoring the chlorine dioxide levels in those areas.

Q So, these would be the plant rooms where, for example, the calorifiers are?

A Yes.

Q Right.

A Additionally, as part of the 2018/'19 project, they added chlorine dioxide into the hot water systems as well.

Q Right.

A That is as a secondary backup, because chlorine dioxide burns off naturally within hot water.

Q So, it is more effective-- not-- effective is the wrong word. It lasts longer in cold water?

A Yes.

Q Right.

A Basically, what that means is

that, if you lost your temperature control within your hot water system, the chlorine dioxide levels would balance out and you would have, for a short-term----

Q So, if you had a hot water return that dropped below 55 in the hot water system, you would still have chlorine dioxide there, you hope?

A Yes, as a secondary means of risk reduction.

Q So, in the cold water system, if you have, effectively, quite long pipes, is there any issue getting the chlorine dioxide concentration up high enough at the ends of pipes?

A Not if the water's constantly moving.

Q If the taps are in use, effectively?

A If the taps are in-- Yes. If the taps are in use, that shouldn't be a problem.

Q But if they are not in use and they are not flushed, then it becomes an issue?

A Eventually, the chlorine dioxide burns off as well in the cold system.

Q Right, and we heard some evidence from Mr. Watson about how he tests chlorine dioxide levels in water as part of his sampling system.

A Yes. So, it's done-- DMA currently carry out the chlorine dioxide monitoring in accordance with HSG 274

at all the sentinel points, which is all your furthest away outlets.

Q Your what outlets?

A Your furthest away outlets.

Q Furthest-- All right, it is just that I want to make sure that we catch that.

A And also, as David, as you say, indicated, for the sampling.

Q Now, in this hospital, it has been suggested by other people that the design of the system creates some very long distances from the original-- from the plant room where the tanks are. Have you had any difficulties keeping chlorine dioxide levels up at the sentinel point to the distance?

A No.

Q And how would you know that?

A Because of the ongoing sampling regime of chlorine dioxide.

Q And that has been running since 2019 as well?

A Yes.

Q Yes? Okay. Right. Now, I want to talk a little bit about the decant of the Schiehallion unit, so Ward 6A in the adult hospital, which we understand happens in September 2018.

A Yes.

Q So, you would have only been in job for three months at this point.

A Three months.

Q In your statement – I will not go to it, but it is paragraph 126 – you describe your involvement in some sampling that was done and some tap changes.

A That-- Sorry, that was in the later project in 2A.

Q Ah, right. In that case, I will go paragraph 126 of your statement, please. So, what you are talking about here in paragraph 126 is on page 129 of the hearing bundle. Halfway through this paragraph, it goes, "My role in this aspect of the report was working along with the others."

A Yes, this was the construction project in 2A.

Q So, that would have been when?

A That was '21 into '22.

Q Ah, right. Okay, that's fine. Now, are you aware – and if you are not, say so – of whether, when the construction project in 2A/2B had been completed, there was a HAI-SCRIBE done for the complete works?

A Is this the initial decant works, or the----

Q No, the final set of works.

A It was managed-- The whole area was shut off by Capital Planning and isolated in accordance with the CDM regulations.

Q So, it came in as effectively a new build?

A Yes.

Q Do you feel that-- What-- Is HAI-SCRIBE a mechanism for risk assessing new builds such as this as far as you are aware?

A No, it's-- HAI-SCRIBE documents is for making changes, small-- relatively small changes, to live environments.

Q So it would not be used for a big job like the refit of the Schiehallion----

A No, not that I'm aware of.

THE CHAIR: Do you want to explore that with (inaudible)----

MR MACKINTOSH: So, let us discuss your level of expertise.

A To some extent, if it's-- if it was within the total-- 2A/2B is within a larger building, then there's probably an overarching SCRIBE to minimise the risk to patients that are going to be in adjacent wards.

Q Can I just break this down into sections? I think it is important. So, let us start with you and your knowledge. As you explained, you arrived in June 2018 having not previously worked in the NHS, so what training or experience have you had with HAI-SCRIBE since then?

A A lot, because it got to the point that I was writing a lot of SCRIBEs on behalf of the Estates department because I was good at writing the SCRIBEs documents.

Q Right. So, your understanding of HAI-SCRIBE is that it is not used for new build?

A No, and I've not had any experience-- because I don't deal with new builds, I wouldn't have that experience, but I've written hundreds of SCRIBE documents in relation to changes within existing buildings.

Q Right. Well, what I am going to do is, I am going to check this over the break, because I was not planning to do this, but I want to just check with one of my colleagues who is probably watching about whether we show you HAI-SCRIBE, but before we deal with that is that-- You have obviously written a lot of HAI-SCRIBEs.

A Yes.

Q In terms of the practical day-to-day work of the Estates department in the hospital, what is the impact on your work of requiring to do HAI-SCRIBEs for work?

A It's significant work to write the document along with our Infection Control colleagues, and we work very well together in producing these documents. They're there to minimise the risk, obviously, to patients, but the time it can take to achieve the SCRIBE is significant.

Q And does that time vary depending, actually, how intrusive your maintenance intervention is?

A Yes.

Q I think it has been discussed, the suggestion that it might have been necessary to remove panels to access pipework.

A Yes.

Q Is an HAI-SCRIBE for that much bigger than an HAI-SCRIBE for flushing a tap, say?

A So, there wouldn't be an HAI-SCRIBE for flushing a tap, but, yes, there is an HAI-SCRIBE for doing the TMT maintenance in high risk areas – in fact, in all areas – that requires removal of IPS panels, which is your wall panels, to get access to the isolation valves.

Q Right. So, presumably, the worry is that there is something behind the panel that is a problem?

A Yes, and you can't do that in high risk areas with the patient in the room. You have to remove the patient from the room, then put in physical protection for that room. You have to, you know, protect all the services. So, a job with TMT maintenance-- an annual TMT can take one hour to carry out, turns into a three/four-hour job, that room is then out of use, from a clinical perspective, for a significant amount of time.

Q I mean, you do not design taps, but you use them. Is it possible to imagine a way of installing taps that would not have this high impact consequences for maintenance?

A Yes. Either taps with isolation valves this side of the IPS panel so it wouldn't be necessary to get that, or build it into a unit behind so that you can open the door, and it's a sealed unit, therefore you're not going to get anything that's going to impact the ventilation environment.

Q You almost build a cabinet behind it?

A Cabinet, yes. In older buildings, I'm aware you used to have channels running up where you would access to services, but that takes up a significant amount of space, and that way you could get in between rooms.

Q Ah, it is almost about hollow walls, (inaudible)?

A Hollow wall.

Q Hollow walls. So, from your point of view, this critique is of design?

A Yes.

Q And whilst I hesitate to call it bureaucracy, because it is a process of patient protection, it is certainly paperwork.

A It's a lot of paperwork. We understand the reasons why. Practically all of the work that's done has to be done under a SCRIBE in patient rooms.

Q And you certainly cannot go and just pop into the patient room, test the water, test the temperature, and step

out?

A You can go in and test the water, because that's no different from somebody using it, whether clinical or patients or families, but if you're doing invasive works, then it's requiring a SCRIBE.

A Now, what I will do is, I might come back after the coffee break to the question of HAI-SCRIBEs in new build or refits of large wards, but we will move on to-- Can we go back to your statement, to paragraph 19, please, which is on page 108. Now, the reason I went to this is simply because you have provided, in the context of some Legionella results-- Now, the timing has thrown me here in the way that we have asked questions and you have answered them. Are you able to help us-- The timing is November '18, March '19.

A Yes.

Q Now, the reason I wanted to ask is, firstly, are these the only positives that were then?

A As far as I can recall, yes, that was the only Legionella positives that we had in 2018 and 2019.

Q Right. Now, we have already asked Mr Watson about what that means, so that is really helpful just to clarify what is going on here. Would these have been reported to an Infection Control doctor?

A These sample results would

have came from the GRI labs, so Microbiology would be made aware of that.

Q Yes. I wanted to ask you a series of questions about how you report the results, so let us just start from the basics and get to this via the basics. So, before we do that, Mr Clarkson, Mr Watson, yesterday, explained, for his samples, how he would do it: he would be told, "Sample certain taps and flushing points," he would write a methodology, he would take the samples, he would deliver the samples to the lab, the lab would give him the results, and he would report the results with the out of specification numbers back to Microbiology.

A Yes.

Q And if it was a GGC lab, it would get into Microbiology systems anyway, but it would not be his job at DMA Canyon to report it onwards to Infection Control doctors, it would just be back to the system. Now, when the work has been done not involving DMA Canyon, once the water has gone to the lab, the GRI lab, what do you get back in Estates?

A For clarity, DMA took those samples.

Q So, this would have been the DMA's responsibility?

A Yes. So, therefore, DMA are the only people that have been taking

water sampling since 2018.

Q So, let us imagine that-- In a moment, we can discuss your water sampling you have been doing, but let us imagine, in 2021, you are doing the water sampling that is required by the Water Safety Plan, and DMA are actually doing the work.

A Yes.

Q And you are in Estates. Do you get told the results?

A DMA send on to a select number of people within Microbiology, Infection Control and Estates, the various sample results.

Q And then do you have your own system for telling other people in microbiology?

A Yes. So, what happens is, whenever we get the spreadsheets through, we analyse those results, then we create incident reports for any out of specifications. We then inform-- When we review the results, if I see any potential issues with temperature, then I-- or chlorine dioxide being low in an outlet, I would then inform our Infection Control colleagues to review clinical practices, which includes flushing.

Q Yes.

A And also we would look at reviewing the use of those outlets.

Q So, there is a lot in there. So, out of specification microbiology results, you would report to Infection Control.

A It goes full circle, in essence. So, they have the results anyway from the lab----

Q Yes.

A -- but they then send that on to DMA. DMA then send the reports on to Estates, Microbiology and certain people in Infection Control.

Q So it gets to Microbiology in two different ways?

A Yes.

Q From the lab and from you?

A Yes, but we also then report-- Well, no. If there are actions needing done, and I need the support from our Infection Control colleagues to review clinical practices, and including flushing, I will email them saying, "Here's a current out of specification."

Q So, this system, is that the modern system now or----

A That's the modern system probably from 2021.

Q Before that, what was the system as far as you are aware?

A Those results there----

THE CHAIR: Possibly just-- so that I am keeping up, Mr Clarkson, you have explained that the results of testing, some of which will be within specification, some of which may be out of specification, will come to you in Estates. You are assuming that the same information has

been distributed at that point in time to Microbiology, Infection Prevention and Control.

A DMA send on the spreadsheet to (inaudible).

Q No. What I am interested in is, what do you do then-- You have got the results. I think you have said you check them for any out of specification?

A So, yes, we check them every week for any out of specifications.

Q Right. So, let us suppose you have identified a certain number out of specification. What do you do then?

A We create incident reports to the team. We have two dedicated technicians within the Estates department who manage day-to-day activities of water management. They work for me or Macmillan and the supervisor, and they carry out certain actions on those outlets. So that's from the Estates' perspective. DMA will automatically add these to their own flushing register, and that way, we know there's a constant flushing going on to give a baseline. I will then email Microbiology and Infection Control if they require to carry out certain actions.

Q Right. Now, you are emailing them to advise them of what Estates have independently decided to do.

A No. There's been an out of specification on a particular outlet, and for them to investigate as well.

Q Right. Okay. So, Estates do not necessarily take any action independently, but you report to Microbiology?

A Yes.

Q It's just, you know, I want to make sure----

A We work collectively together now as a team with the out of specs.

MR MACKINTOSH: One of the things that you talked about was out of specification, and I wanted just to make sure I was looking at the-- understanding what that is. So is that the document in the Water Safety Plan that sets the specifications for each types of test?

A Yes.

THE CHAIR: All right. Okay.

MR MACKINTOSH: And who writes that?

A Initially, the limits-- So, you've got the limits for Legionella and pseudomonas, which is defined by guidance.

Q They are, yes.

A Outwith that, there is no any extant guidance. In 2018, or maybe early 2019, Dr Inkster and Ian Powrie agreed set limits for other bacterias, moulds, yeasts, etc., which there is no extant guidance. That forms the basis of our Water Safety Plan to this day.

Q And that is that table all the

way through?

A Yes.

Q And that is the one-- when you say to me, "It is out of specification," that is the one you mean?

A Yes.

Q And when you decide to email Microbiology colleagues, that is the specification you----

A Yeah. DMA use that same process as well. So they work to the same standards, hence why it's easy to see that information.

Q What I want to do then is-- I think I am just going to find the document to make sure you're looking at the right thing. This is bundle 27-- No, it is not. Give me a second. Document 7. No, it is not. I will come back to that. Here we are. Sorry. It is the written scheme, bundle 27, volume 1, document 19, page 276. So is that the latest version, as far as you are aware, of the written scheme?

A It's the current version, however we're about to move to version K, imminently.

Q We have only put in, I think, version 1 and version J in our bundles. Right. If we jump forward to page 396, is this the table of which you have just been talking?

A Yes.

Q Right. Thank you. Now, if we could take it off the screen, please. This

is a question which-- I am asking everybody, and I am intrigued to see what the answer is. What do you understand the word "contaminated" to mean in the context of water in domestic hot and cold water systems?

A Contaminated water-- Scottish Water provide wholesome water to a building. It cannot a contain E. coli coliform, which is zero limits for that. Therefore, if it does contain E. coli coliform, it is therefore not wholesome.

Q Yes.

A Contamination of a water system would be even something that shouldn't be in water, enters a water system.

Q And would that be chemicals?

A It could be chemicals or anything-- pests----

Q Dead rats?

A Yes, as we can see from recent cases.

Q What about microorganisms? Can they be the-- A presence of microorganisms at an appropriate level.

A Yes.

Q Can that be described as contaminated?

A It's colonisation. So it's colonisation of a water system by opportunistic----

Q Bacterias or fungi, yes.

A Yeah.

Q So, is there some sort of alternative? "Contaminated" means one thing and "colonised" means something-- means a similar thing but for a different thing.

A Yes.

Q Right. Now, what I want to do now is talk about-- move on to the Water Safety Group, my Lord. (To the witness) So, we have obviously have not yet come to looking at minutes from the Board Water Safety Group but, since you are here and you are an authorised person, from your point of view, what is the responsibility and purpose of a Water Safety Group?

A The Water Safety Group, overarching, is to manage the water-- So, you've got the Board Water Safety Group which manages the water compliance across the whole of Greater Glasgow and Clyde. You'll then have Sector Water group meetings which then report into that Board Water Safety Group meeting.

Q And so in Greater Glasgow and Clyde, it is divided up into North sector, South sector, Clyde sector----

A South, yes.

Q And is there not a regional sector as well?

A Yeah.

Q So there is four sectors of it.

A Four sectors.

Q And this hospital is in South sector?

A Correct.

Q In the time you have been at Greater Glasgow and Clyde Health Board, has there always been sector Water Safety Groups as well?

A As far as I recall, yes.

Q Right. Would there have been a sector Water Safety Group in 2018?

A I think so. I haven't seen the information to be able to say yeah----

Q Well, we will explore that with somebody else. The reason I wanted to ask that is-- When did you start attending the Board level Water Safety Group?

A I think it was 2020-- There was some occasions I went there for experience. I started to attend them now as part of, I guess, training. I now chair the meetings.

Q So, your roles have changed?

A Yes, but it's part of a training rather than----

Q Could I ask you to look at a-- bundle 11, page 144, which is document 45, and it appears to be a Water Safety Group meeting from September 2021.

A Yes.

Q Now, is this roughly when you were first attending them?

A Yes.

Q I am going to ask a slightly

series of unclear questions. I am going to try and ask what everyone was doing there. If you do not know what people were doing there, do say.

A Okay.

Q So, obviously, Mr Cox is chairing them----

A Yes.

Q -- and then you have yourself as an Estates manager.

A Yes.

Q Of course, at that point, you are manager of one site in one sector.

A Yes. So I'm there at that meeting in the absence of Euan Smith, who is my manager.

Q Got it. You are standing in for him.

Q I'm standing in.

Q And then Dennis Kelly is the authorising engineer.

A Yes.

Q Mr Gallacher is head of Corporate Estates, and you have explained the difference between "corporate" and "operational" already. Mr Purdon is speaking on behalf of Clyde sector.

A Yes.

Q Presumably, the actual head of Estates could not come or they have arranged it that way between themselves, but he would be there for Clyde.

A Well, that is the main role within Clyde. There were assistant heads.

Q No, that is fine. It is not actually an issue. I am just trying to work out what everyone was doing.

A So, Colin was, in essence, in charge of that sector.

Q Right, and then Mr Jordan, is he within the world of corporate estates or something else?

A No, he's within-- I believe he's within the Health and Safety Department.

Q Right. Okay, and then we have Pamela Joannidis, who is a nurse and Infection Control consultant, and then Mr Fulton, he is bidding for his sectors.

A Yes.

Q Professor Leanord, who is the lead ICD at that point, if I remember correctly. Mr Green comes from the same world as Mr Jordan?

A I think so.

Q Yes. Mr. Kennedy-- Dr Kennedy is the consultant. We will speak to him in due course. Mark Riddle, presumably, he is your ultimate boss.

A He now is the assistant director of Estates working for Tom Steele.

Q But back then, he was the head of the operations side?

A Yes. Back then, yes.

Q So, effectively, he is the opposite number of Mr Gallacher?

A Yes, he is.

Q Yes, and then we have Mr Cairns, and I do not think I need to ask you about what he does, and then Mr Hunter, how does he relate to you? Because you are also in the South sector.

A He is the director of the Facilities department which manages all of the cleaning aspects within the----

Q The cleaning aspects?

A Yes.

Q Right. Well, we will just look at the people who did not make it, as it were. Mr Smith is who you are standing in for?

A Yes.

Q Right. Now, I wonder if we can go to page 146, and the third from the bottom, it says "storage tanks." I am assuming it is a typographical error in the second line and it is metal that is deteriorating?

A Yes.

Q What is this metal in the storage tanks about which you are speaking at this meeting?

A This is the corrosion of the steel rod bars.

Q This is the horizontal tie rods that we have seen a photograph where there is a----

A Yes.

Q -- checkered pattern?

A Yes.

Q Okay.

THE CHAIR: Sorry, my fault entirely. I am just kind of running behind you, Mr Mackintosh.

MR MACKINTOSH: So, it is on page 146, my Lord. The----

THE CHAIR: So we are still-- I mean, this is----

MR MACKINTOSH: The Water Safety Group from 9 September.

THE CHAIR: This is a minute of the meeting?

MR MACKINTOSH: Yes, my Lord. 9 September-----

THE CHAIR: I am now with you. Thank you.

MR MACKINTOSH: (To the witness) Yesterday, we saw some photographs – I will not take you to them – of the tanks in-- not the raw side but the post-filter side of the tanks. We saw pictures of them. So this is you reporting that there is some issue with these rods deteriorating. Are they still there or they've been replaced?

A They're still there.

Q Still there. Now, these are on the post-filter side.

A Yes.

Q So, what can you do to prevent these flakes getting into the rest of the system?

A There are strainers within the outlets, and so they wouldn't-- because

they're heavily in water, they're going to sit in the bottom of the tank but there's also strainers within outlets which would----

Q Outlets from the tank?

A Outlets from the taps which would stop particles.

Q So are these the flow strainers?

A No. They're internal strainers within the actual outlet.

Q Right.

A It was before the actual tap outlet----

Q And are these strainers things that can be accessed without taking off panels and----

A Some taps, yes, other taps, no.

Q Right. So, we are back to the problem of the HAI-SCRIBEs and the workload?

A Yes.

Q Okay. Right. Now, I want to talk to you now about the South Sector Water Safety Group. Now, if we could take that away. When did you start chairing it?

A The South Sector one?

Q Yes.

A I don't chair the South Sector, it's Euan Smith who chairs it. He's the----

Q Oh, sorry. I am doing Mr Smith a disservice there.

A Euan is the RP.

Q Right. He is the responsible person?

A Yes.

Q Well, we will come back to what we did actually at the meetings later on after the break. When did you start attending the Water Technical Group?

A I only attended a couple of Water Technical Group meetings.

Q And they would have been in 2018 or thereabouts?

A No, I think 2020/'21. I may have attended the odd Technical Group meeting.

Q Well, what we will do is we will come back to them in a bit after the break, because I have got some questions to ask about those. I want to just check in. I think you have already answered this, but we have heard evidence of four DMA L8 risk assessment reports carried out. Is that correct?

A Yes.

Q Yes. So, the first one predates you, and we have discussed that already. The second one in '17/'18 is the one that you were checking the implementation on the Smartsheet system soon after you arrived.

A Yes, and Colin and Andy had-- So I became aware retrospectively that Colin and Andy were in-- they're obviously doing that at the same time as

Mel was concentrating on doing the 2018/2019----

Q So, you are doing the 2018/'19 one with Mel.

A Yes.

Q And then the most recent one is the 2023/'24 one?

A Correct.

Q Now, what I just want to understand is, why was there a gap between 2019 and 2023/'24 without one being done?

A The risk assessments were managed through our compliance department. They raised a purchase order in 2021, and they require to carry out risk assessments in all of the buildings on the campus. So the decision was made to carry out risk assessments in the retained estate buildings first, because they hadn't been done since 2016.

Q Right. So, why was it not done in the new buildings as well at the same time?

A Because of the amount of time it takes to actually carry out these. They were getting done by DMA, so the resources that are available and the amount of time it takes to carry these out.

Q So, is this your resources or the hospital or DMA's resources?

A DMA's resources. They were the service provider requested to carry out the risk assessments.

Q I did not specifically phrase the question – that is not the way he seemed to see it – but you think it is his resources, not the Health Board's resources?

A Yes.

Q Yes, okay. Now----

THE CHAIR: So, just so I followed that. Question: why the period of time between 2019 and 2022? Lack of resources on the part of DMA Canyon.

A Well, we wouldn't necessarily just focus on lack of resources, it's also the time it takes. It took over a year to actually do one building at a time. Because of the amount of work that's required to actually achieve it, it's unreasonable to expect to have significant resources to actually achieve it.

Q Fair point. Thank you.

MR MACKINTOSH: Right, well, I want to just take a moment before we have the break to start looking at the authorising engineer's reports, and particularly I want to look at one which I am going to-- Hopefully my colleague will not be too surprised when I ask him to go somewhere completely different, which is bundle 18, volume 2, page 909. This should be the 2018 report.

I am going to ask you some general questions about these, and then, Mr

Clarkson, after the coffee break we will just go through them methodically once I have-- individually. So, I just wanted to check that you understand these and we can discuss them with you. So this one here bears to be an authorising engineer's audit-- compliance audit for the hospital in July 2018 by Dennis Kelly, and you are not the staff member being interviewed. The ones I asked you to look at have you as the staff member being interviewed, but could you just explain to his Lordship, what is your role when these audits are being done as the staff member being interviewed? And we will look at your ones after the break.

A What we do is we work together with Dennis to be able to provide the information. He's carrying out an audit on the management system and compliance with L8, looking at planned maintenance records. So we have to facilitate that assessment so that he can complete that report.

Q And so you are providing him, effectively, the information?

A Yes.

Q And by the way it is described as "interviewed", I suspect it is somewhat of a question and answer session, in some sense.

A Yes. It's not any different from any other type of audit, if you've got an auditor and they're looking for

information, they're looking for evidence, you know, “Show me, demonstrate to me.”

Q Because the one thing that I thought was a little bit different from an auditor is that Mr Kelly attends the Water Safety Group.

A Yes.

Q And I suppose most auditors do not attend the audit committees of-- Well, they do attend audit committees of companies. So, it is like that, is it? They are there on the audit committee?

A Dennis obviously attends, as you say, the Board Water Safety Group meetings. He is the authorised engineer for the Board on various areas. So he's got an in-depth knowledge of, obviously, water systems.

Q And so how much preparation do you require to do before one of these interviews?

A Over the years, it's been getting easier and easier because we've found other methods of being able to demonstrate information, whereby, when I first started, a lot of the information was in physical files.

Q Right.

A And, therefore, you had to then collate all that information, make sure the admin aspects had been done and the paper records had been put into the files. So you then have to take all the files to

Dennis. Dennis would then have to look through the files, and if things were missing, you'd have to go and look for those and try and find them and put them in.

As the years have progressed to, actually, now, we have, in the last few months, implemented within Teams – and I'm a big advocate of Teams – a BS 8680-compliant file structure, which is----

Q So, this is the same guidance that produced the written-- the Water Safety Plan?

A Yes. So, we have a structure in place there now. So, even up until then, we had went to Teams. All the information was in Teams, so the auditor could sit there and access all that information, sitting literally behind me in the office on the big screen. Then, if requesting information-- I think Dennis said in the future audits, it used to take them three or four days to carry out an audit, whereas now it can be done in just less than a day.

Q Right. So, it is administratively a lot easier?

A Yes.

Q Well, we will talk about the substance, but this might be a good place to break for the morning, my Lord, and then we pick up this (inaudible).

THE CHAIR: As I said, Mr Clarkson, we usually take a break about

now. Can I ask you to be back for quarter to twelve?

A Thank you.

(Short break)

THE CHAIR: Mr Mackintosh?

MR MACKINTOSH: Before we turn to the authorising engineer's audits, as discussed, Mr Clarkson, I need just to get some more details about the history that you wrote.

A Yes?

Q For the simple reason that, at this precise moment, my colleagues in the back office cannot find it. So can I just get from you when you wrote it?

A 2021.

Q And what form does it take?

A A Word document.

Q Roughly how long?

A 80 pages.

Q Would it be possible for you to send us a copy after you have got back to the office, and we can match it to-- I am sure it is in our system somewhere, but there are an awful lot of documents in our system and I am keen to make sure we have a copy. Is there anything in it that you consider not to be accurate anymore?

A No, I-- We took a significant amount of time between myself and

Dennis along with Jim Leiper to go through it, with others inputting as well.

Q And then Jim Leiper took some of the words to put into his paper?

A No, we took some of his words.

Q Ah, I see.

A He gave us some of his words to put into our paper.

Q So, if we see a cross-read between him and you, they come from him?

A They come from him.

Q That is really helpful. Thank you. Now, if we could look at bundle 20, page 2078, which I hope is the authorising engineer report for 2021. Yes. Now, you are marked down with Mel as the staff interviewed. I am assuming this is back in the day with the paper copies?

A Yes.

Q Yes, and then the risk levels are assessed. I wonder if you can help me out with an observation I have had, and I can take you and show you the DMA Canyon comparisons, but in DMA Canyon's risk assessment levels, the first and second both require immediate action, and Dennis' second one does not require remedial action. Is this something that people have noticed, or is a----

A I think different people use different risks. Generally, we try and achieve them all as quickly as possible.

A Yes. Well, I was talking about the journey you have been on.

A Yes.

Q So, if we go on to the next page, we see at the bottom it narrates, "There are 24 recommendations in this audit". Does that ring a bell with you?

A Yes.

Q Yes, and then previously there have been 43 in the 2020 one.

A Yes.

Q Now, over the next four years, does the number of recommendations from Mr Kelly reduce?

A Yes.

Q What is the current number?

A I think it was 9 for 2024, of which all were completed within a matter of weeks.

Q Right. Now, from your point of view as an operator of this system, what was the amount of work that it took to get you from 43 to what is now 0?

A It's a significant amount of work, given the resources we have and the breadth of the job that we do in Estates, that sometimes you have to prioritise other areas within the campus, particularly with what you would call aging infrastructure in the older buildings, but the intention is always to try and complete these as we went----

Q In terms of the available

resource----

A Yes.

Q -- you obviously were not around in ‘15, but you have written your history. Are you able to comment on the amount of staff and other resource you have now compared to back then?

A It's probably better than it was then. We are using a lot of outsourced service providers, such as DMA and others, for other aspects of compliance like water----

Q This may not be the whole picture, but I will break it down and we can see whether I have got all the bits at the end. In terms of full-time equivalent staff, are you at the same number of staff back in '15, or more?

A More, but I can't remember the numbers we've got now, because we've added a few more in recently.

Q In terms of the budget you manage, has that gone up or gone down?

A It's went up. The actual spend budget hasn't went up, but the spends went up significantly.

Q That does not make sense to me. I have to break that down. So, the spend budget has not gone up?

A The actual budget you're given to spend against hasn't went up, but the actual spend that you're spending. So you're basically spending more than you were given.

Q Ah, so you are overspending.

A Overspending. That doesn't mean that we're overspending. It could mean that the budget wasn't right.

Q Of course, yes, but in terms of the number that was put in the budget line----

A Yes.

Q -- you are spending more than that?

A Yes.

Q And have you attempted to have your budget increased?

A I don't manage the budget directly----

Q Okay.

A -- but I think there's been discussions about-- at a higher level about the need for budgets to be higher.

Q Who is the first person in your sort of chain of command above you who manages the budget?

A Euan Smith is my direct manager.

Q Yes. Right. We may have to ask him. Right. Now, I want to go to the 2024 report, which I am hoping is in bundle 27, volume 1. It is. It is at page 252. And then after this page, which is the general site description, do we have the executive summary on the next page?

A Should be.

Q And there are seven

recommendations in this one. If we could go on to the next page, it may not matter in the overall scheme of things, but looking at the levels of risk found, what does task completion, which is down as a high risk, amount to?

A We'd have to see the detail of what tasks we aren't getting completed, which will be further down in the report.

Q Would there be a section for that?

A Yes, there is.

Q Well, let us go----

A If we go down to the-- the other recommendations there.

Q So we will go on through that, so that it would be a question set on----

A Sorry, it's summarised on the first page there. There.

Q Go back.

A It's number seven.

Q So page 252, number seven, yes. So this was basically something to do with a non-completion of a task to do with non-flow-through expansion vessels.

A Yes, this is the-- this is making reference to the two vessels that are in the basement tank room that are accumulator vessels----

Q Yes.

A -- that can't be converted to flow-through.

Q Yes.

A However, at the time of the audit, we couldn't-- when we sat down with the audit, basically, the-- we got these converted to be flushable late last-- late 2023. So when Dennis asked to see the evidence from that, we had to request the evidence through DMA because DMA do the flushing of these now. So they've been already converted.

Q So before this conversion, they were not flushable?

A They weren't flushable.

Q Now they are flushable?

A Now they are flushable.

Q And these are the cold water accumulated tanks?

A Yes.

Q Which are sometimes called expansion vessels?

A Yes.

Q But they are not the same as the hot water expansion vessels which are in the calorifier systems and they have been replaced some time ago?

A Yes, they can be converted to flow-through because of the way they operate. The ones in the basement, because they're-- they're called accumulator vessels because they need a head of pressure to be able to-- as the pumps kick in to pump water up 12 stories, the pump will kick back. So the accumulator vessel acts as a damper----

Q Right.

A -- to take away that pressure

release.

Q Now, if we could go through to bundle 27, volume 1, page-- well, we were there before, it is the written scheme. So it is-- it is document 19, yes. That is page 276. I do not want to go through this in detail because we can obviously read it, but from your point of view as one of the people who reviews it, how much has it changed in those various revisions that we have got to, to revision J?

A The first changes that I made was to version C, and I started to incorporate the other preventative maintenance activities that were getting carried out but wasn't detailed in the written scheme. That included the mains filtration maintenance by a company called Veolia, who were the manufacturers of that equipment.

Q Veolia?

A Veolia, yes. They do six monthly maintenance, so----

Q So you had added in to version C?

A Version C, aspects of plan maintenance that were in place but hadn't been added to the document.

Q And you are making it, effectively, a wider, more comprehensive document?

A Yes, making it a more comprehensive document so that people

can understand all of the risk reduction activities that were getting carried out. So it included that, it included all the chlorine dioxide, and management was getting done by Scotmas. They do a monthly maintenance of the units.

Q And that is the big units in the basement that add in the chlorine dioxide?

A Yes, and the various-- which we call alpha units and bravo units, which are secondary units throughout the hospital.

Q So, you are saying that at version C, it widened?

A It widened the scope of what was included within the management, steadily making minor changes, then we get to version J. Version J is the first step to a BS 8680 Water Safety Plan.

Q Now, is that a system of compliance where you can be audited against the standard?

A So, theoretically, yes, you could, yes, if auditors wished to go down that route. It just means that the structure of your document is nationally recognised so it's easier for somebody to audit then, because they've----

Q Yes, because one of the things that you have touched on and I asked you a question, I think I must have misunderstood, is that a written scheme and a Water Safety Plan often overlap in

their utility?

A Yes. Yes. Water Safety Plan-- The written scheme is generally dealing with the-- sorry, the biological side of water management, the immediate use of the water and the risk of the water. The Water Safety Plan expands that to include chemical, radiological and physical.

Q So the written scheme came out of SHTM 03-01, part B?

A Yes.

Q And the water safety came out of, I cannot now remember now, the BS----

A 8680.

Q 8680 in 2020?

A Yes.

Q And you are trying now to achieve that standard?

A We have-- Version K is about to be approved and it should have been approved already, but with everybody's holidays and everything, it couldn't go through the sector meeting but, in effect, it's the same people that attend these meetings will be doing (inaudible)----

Q So this gets approved by your South Sector Water Safety Group?

A Yes, and that is-- that has already been checked through by another AE as well (inaudible)----

Q Now, the authorising engineer?

A We worked with Daniel Pitcher, who's an authorised engineer, and we converted our water written scheme into a Water Safety Plan.

Q So, let us just recap this. Since you arrived, you have merged the water safety written scheme into the Water Safety Plan?

A Now, yes.

Q Version C, you started adding in the various bits of work that were done by subcontractors?

A Yes.

Q You are trying to change the format so it matches the modern standard, the BS----

A Yes.

Q -- 6----

A 8680.

Q 8680, and you are now getting the new version audited by another authorised engineer, or----

A No, we wanted an independent review of our compliance, so we requested Daniel Pitcher to have a look at that and he compared us to the British Standard. So this is a head of the British Standard and for the Water Safety Plan included within the updated SHTM guidance. It is included within the SHTM guidance in England, but I believe it will be included within----

Q So you are trying to meet the----

A Ahead of the game.

Q -- get ahead of the standards?

A Ahead of the standard.

Q Okay.

A Because we had the significant building blocks already in place, when version J was an interim solution to when-- Daniel came in a couple of months ago, then came back six weeks later. It got to the point in between that interim time that we realised we could actually convert this to a Water Safety Plan within that time scale.

Q Okay, right.

A Because it's just really reorganising the information that you already have.

Q Does that mean that everything about managing this campus is in one document?

A Yes. Now, that covers all aspects of what-- Under a Water Safety Plan, you have all aspects of water management including scald risk, drowning risk, COSHH assessments on chemicals and water.

Q Okay, right. I want to ask you-

A It's widening-- it's widening into also the use of water rather than the water in itself.

Q So, I wanted to ask you a couple of questions that arose from your evidence this morning about the Water Safety Plan. When we looked at the page of-- we discussed the reporting of microbiology results, you mentioned I think that there was a sort of a select list of microbiologists who received-- who is on that list at the moment?

A I believe Abhijit Bal's a microbiologist in Infection Control.

Q Yes.

A He receives them. I think Linda Bagrade receives them. She's a microbiologist.

Q Do you have a list back at the office?

A Yes.

Q Could you send us that list?

A Yes.

Q Is the list in the Water Safety Plan now?

A No, because all we do is we put in there the-- That's actually quite a good enhancement we could include, but, yes, it's just the departments are currently in there, rather than the name.

Q But, obviously, it has been suggested that Infection Control and Microbiology has, at times, had a slightly convoluted management structure by other people. So how do you choose the people on that list? Who chooses the people on that list?

A It's a collective decision.

Q Of whom?

A By-- If I remember, a couple of

years ago, I sent an email to Infection Control microbiologists saying who wishes receive the information from DMA.

Q Right.

A The results.

Q But, presumably, you had to send a list to-- that request to certain people and they are the ones who responded?

A Yes.

Q So, if I was to start thinking, "Well, I will go and ask Sandra Devine or someone like that and she will know the answer," it is more a collective situation, you think?

A Yes, more a collective thing.

Q So there is not actually someone telling you, "This is the list"?

A No.

Q No, but could you send us the latest list, please? That would be really helpful, and what we will do is we will, at this point, when you mention those names, we will just paste in-- well, if we take a note of the fact that-- or who-- actual names are, and we will use that when we were-- when I make my written submissions to his Lordship so I have got a note of who they are.

A Okay.

Q Okay, thank you. Right, what we will do now is, let us talk about the delicate topic of the point-of-use filters. Now, these had obviously been fitted before you arrived.

A Some of them have been fitted before I arrived and I think it continued during 2018.

Q And you discussed in your statement the process of them being removed, starting in 2020, but then stopping.

A Yes.

Q And it is now being considered again in 2024.

A That's correct.

Q And what I wanted to do was just to get some details on this, and I think there is something in a Water Technical Group minute from 22 April ‘21, bundle 10, page 204. So, this is at item 5, it is actually on page 205, down at the bottom.

A Yes.

Q So this seems to be-- the first bit, it is being reported that there was a removal program in mid-2020.

A Yes.

Q The non-Schiehallion filters.

A Yes.

Q So where would that have been?

A That is within the children's hospital.

Q The other bits of the children's hospital, okay.

A Yes.

Q And around 50 per cent were

removed, but the labs were overwhelmed. I am assuming they are overwhelmed to do with the pandemic rather than anything to do with this?

A I think it was-- well, it means that it's overwhelmed with samples.

Q From the proof removals?

A Yes, because what we're having to do, what was agreed at the time, was that you would take the filter off, sample behind it, put a new filter on----

Q Yes.

A -- wait for the results, then we need to detect three "not detected" in a row.

Q Yes.

A Then the filter-- So you would-- through three filters by then over three weeks, new filters.

Q So, you would take the old filter off?

A Yes.

Q Sample the water behind the filter?

A Yes.

Q Put a new filter on?

A Yes.

Q Come back a week later, do that again, do it again----

A Do it again.

Q -- and if you have got three negatives, you could take the filter off?

A Yes, then the information--

sorry, the water samples were sent by DMA to GRI labs to process. So I'm assuming that means there that it was overwhelmed, they might have----

Q Oh, right. So it was overwhelmed with this exercise, not with something else?

A Yes, yes.

Q Right, that is helpful.

A I think this is overwhelmed with samples.

Q Now-- And you are thinking of now doing it again but you are not there yet, or where are you on removal?

A We've identified-- It's been-- become a bit protracted, the process, however, we've identified within-- when I say “we”, together with Microbiology and Infection Control, we've identified areas in the Queen Elizabeth and RHC where point-of-use filters could be removed, which are general wards.

Q So, at the moment, all the wards in the tower have filters?

A No, there's a certain proportion of them, not all of them.

Q Right.

A The decision was made by others in 2018 that-- based on risk assessment to fit point of use filters in certain areas.

Q Okay. So, the ones that are still there in the tower, you are thinking of removing those?

A Select ones that are not in high-risk areas.

Q Okay, but that process is not complete yet?

A No. Because of the difficulty and lack of guidance for mass removal of filters-- Because if you went through that same process of what we went through in the children's hospital there, of taking-- sampling every single outlet-- So, every single outlet, if you have 28 rooms-- Say there's two wards that are general wards in the adult's hospital at the minute. They were high risk, they converted back to general----

Q Sorry, just to recap, because you went a bit fast there, you are saying there are two wards in the adult hospital that have point of use filters?

A Yes.

Q All right. Carry on, please.

A There's more-- there's more wards than that----

Q There's more.

A -- but these are two wards that are definitely general wards that can be removed from.

Q Got it.

A So, if you've got 28 bedrooms, then you've got a shower outlet, a clinical wash-hand basin and a sink in the en suite, you need to take two samples for cold and mixed from both sinks, and you need to take a sample from the shower,

so that's five samples for one room. Then, if you do that in 28 rooms, you would repeat that 28 times. That's a lot of samples going to the labs, and then you've got to repeat that again and again and again for three----

Q For three weeks?

A Yes. So it can become quite extensive. So, what we're looking at collectively as a group is, what are the options? Do we need to go down that route? Because this is removal of filters where there are no out of specifications. The guidance is different if you've got an out of specification. If somebody fits a filter because they've got Legionella there, then you have to go through that sample, sample, sample, sample----

Q Just to recap, if we just take as an example-- I know it has been refitted since then, but Ward 2A as was, before you arrived, it had arguably out of specification samples, and the filters were fitted.

A Yes.

Q To remove those filters-- I know they have been removed completely because it is a new unit, but to remove those filters would have required this three-week process?

A Yes.

Q But what you are talking about is wards in the hospital where your current testing regime is not showing

anything out of specification?

A Correct.

Q And did it ever in those locations?

I don't know the answer to that.

Q But it might have done, but not----

A It may have done in the past, yes, a long time ago.

Q Well, your question is, "What do I do where, in recent years, it is all fine"----

A It's all fine.

Q -- "how do I remove the filters?"

A How do you remove filters? It's easy to fit them, and this isn't just unique to the Queen Elizabeth, this is a general issue. Well, once you've fitted these, unless you've fitted them as a result of having an out of specification, then the guidance is clear that you have to go through that process, and understandable, of sample, test, sample, test, sample, test.

Q Okay.

A We might have to go down that route, but the options are open at the minute and we're looking at, you know, risk assessing.

Q So, who were the people involved in that exercise, so I make sure I ask the right questions to the right people (inaudible)?

A It's being led by one of my colleagues in the compliance department who works for Alan Gallacher.

Q Right, and in terms of Infection Control and microbiologists, who is the inputter to that?

A I think Linda Balgrade was involved in those discussions as well.

Q Okay, thank you. Right, now, I wonder just while we are dealing with taps-- let us go back to taps, because I might ask a couple of other questions. You discussed looking at the maintenance of taps, the Horne Optitherm taps, and making sure they were being maintained properly, and you explained that that had started in 2019. Are you able to tell us when it started in Ward 6A?

A 6A would have point of use filters fitted.

Q They would still have a Horne Optitherm tap with a point of use filter on it?

A Yes.

Q So, when did the flushing regime-- and the cleaning regime, rather, not the flushing-- when did the cleaning regime start for the Horne Optitherm taps in Ward 6A?

A The cleaning regime is part of the national cleaning standard for facilities to clean the taps, but if you're talking about the actual tap----

Q Yes, I am talking about-- Remember when we were talking about Horne Optitherm taps, I asked you about whether, in 2014, there had been a meeting about purchasing the taps?

A Yes.

Q And there had suggestion they should have a regular cleaning regime?

A Uh-huh.

Q And you gave evidence, if I understood you correctly, that that regular cleaning regime started in the hospital in 2019.

A It's for six-monthly-- six-monthly----

Q Six-monthly. Are you able to tell us when it started in Ward 6A?

A I don't have the details for that.

Q Do those records exist?

A I would have to check.

Q Could you obtain for us the confirmation of the date that started in 6A, please? Because I think it is a question that I think does-- needs an answer.

A Yes.

Q Then, there is the----

A Sorry, can I go back to the TMTs?

Q Yes, do.

A With regards to TMT maintenance, the TMT maintenance in 2019, the six-monthlies that were getting carried out, in 2020, there wasn't any

carried out because of the TUG group, which is a procurement term for carrying out a tender board-wide.

Q Right.

A Plus, COVID was happening then as well. In 2021, you were only given permission at Board level to get the six-monthlies-- TMTs maintenance carried out, and DMA started carrying out those----

Q So, there was some maintenance in '19?

A Some maintenance in '19, then there was a----

Q Then, there is a gap.

A A gap, then-- in say the six-monthlies-- six-monthlies is the SLAM test, the safety check, not the clean.

Q Yes. Ah, right. So, if we are focusing, as we are, on the recommendation that there be a regular clean, that is actually not until DMA start doing it in 2021?

A Well, 2019, I think DMA was carrying them out. I can't recall where they carried them out. There wasn't done any in 2020. 2021, DMA were given permission to carry out the minor maintenance; you've got to call it that, the SLAM test. In 2022, myself and-- I escalated in March 2021 to senior management that the annuals weren't getting carried out on TMTs.

Q Right.

A And the decision was made in 2022, regardless, to go ahead and start doing annual maintenance on TMTs.

Q I think what I am going to do, Mr Clarkson, because this is quite important and I do not want to make this a memory test, is what we will do after this hearing is we will send you a little questionnaire and we will get that nailed down, because a number of people are interested in this timing. So, we will leave that for now, because I think there are records you've probably got, and you can tell us the results, and that will have the advantage of being clear and precise. So I will find out later from you when these various types of maintenance of the Horne Optitherms took place, and in which wards, and that will be really helpful.

A Okay.

Q Okay. Now, let us move on to the topic of-- Actually, given the time, I am not going to do that. I want to just ask a question which-- I showed you-- asked you to look at an IMT minute. I am not going to go to it now, but I just want to understand what you do when you end up at an IMT as an Estates operations manager.

A We work as part of a team to carry out an investigation. So if there's a potential that it could be related to water or it is a bacteria that survives in water, our colleagues in Infection Control will ask us to carry out tests on taps.

Q So, you are there effectively to provide that input?

A Yes, and on the general condition of rooms as well, you know, if it's not related necessarily to water or ventilation, but it could be as part of the overall Estates aspect.

Q And so when a person turns up at an IMT from Estates, it would normally be someone from the operations side of Estates?

A Yes.

Q And in this hospital, it would often now be you or Mel Macmillan?

A In relation to water, it would be generally at the level I'm at, so it would be myself who we'd put in for water, Hugh Brown for ventilation, and Euan Smith as well, (inaudible) electrical.

Q Okay. Now, I would like to go to the Water Safety Group minutes for 2022 onwards. They are in bundle 27, volume 1, at page 444. The reason I want to go to your minutes is because, at the end of these minutes, we have a set that runs from here until August of 2023. I want to really discuss a question about out of specification, or the limited number of out of specification results, and the reliance that can be placed upon it. It occurred to me that a good place to go to, to have this conversation would be-- well,

first page 482. So it appears you report-- it is reported into your minutes the results of water testing that are within parameter, or nothing is detected.

A Yes.

Q And I want to just check that these specifications go back to that table in the Water Safety Plan that we have looked at.

A That's correct.

Q Then, if we scroll down to the bottom of this report onto page-- in fact, we jump forward to page 448. Is this how you report your water safety specification results to the Water Safety Group?

A It's one of many bits of information, but, yes.

Q Now, so when you or anybody else is saying, on behalf of the Health Board, that the number of out of specification samples is low, these are the sort of levels you are talking about?

A Yes.

Q Right. So, I am sure you appreciate that there are some people who are sceptical, at times, about the Health Board's compliance with these sort of standards, albeit there are not any standards for most of these microorganisms. What would you say to someone who is anxious or concerned or sceptical about the suggestion from you and Mr Kelly's audits and the DMA Canyon report that the water system is now much better managed?

A I would say that I appreciate where it came from, and that the risk reduction measures that have been implemented indicate, you know, what we've achieved, and it's from various parties as well, it's not just the Health Board saying that; you've got independent reviews. However, I would also say that, by using-- continuing to still use point of use filters in high-risk areas, which is a consideration as part of the SHTM requirement for high-risk areas for patients to fit them as part of your overall risk reduction strategy----

Q So, how would you respond to the point of view that this is not widely enough known or understood, and therefore people have a lack of trust in the resolution of these problems?

A It's, "How do we get that information?"

Q So, where does this information go to?

A This goes to the governance.

Q So it goes up to the Water Safety Group?

A It goes up to the Board Water Safety Group, it goes to a number of the Infection Control meetings as well.

Q And, in theory, it eventually reaches the Board?

A It could theoretically go all the way to the top.

Q Okay. Now----

THE CHAIR: If you are leaving that, Mr Mackintosh, I think I would probably like to go back to Mr Clarkson and get his answer to your question, "What would you say to the anxious or sceptical?" at dictation speed. So, really, just asking you to repeat what you have just said. The question is, "What would you say to someone who is anxious or is sceptical about the management of the water system?" Can I just take dictation?

A Given the risk reduction strategies that have been implemented, which has been independently assessed through risk assessment and audits, together with sample results, history, going back to 2018, is an indication of how effective the system now is.

MR MACKINTOSH: From your point of view, as somebody who has been operationally managing this system since 2020, but had been involved in it since 2018 to some degree, when did it really begin to make a difference, the work that was being done?

A I would say that the people that were there in 2018 laid the foundations, and without those foundations, we couldn't have made the significant progress that we have made.

Q But in terms of not having too many out of specification results, when did that change happen?

A Probably from 2020 onwards. It started-- Certainly in the last couple of years, the amount of out of specifications has reduced significantly.

Q Thank you. Now, what I want to do now is to ask you-- I have already asked you about HAI-SCRIBE, so I will not go back to them, but it occurred to me-- and you did not mention this in your statement, but one of the things I have noticed learning about this issue is the use of SBARs.

A Yes.

Q From your point of view as an Estates operation manager, are SBARs a useful mechanism to raise issues and concerns?

A They can be but they shouldn't be used for replacement of other processes that aren't necessarily working correctly.

Q Could you give an example of the sort of way they might be used as a replacement that is----

A If we go back to the issue with the tanks in the basement, it was raised, as we know-- the executive management in 2021. We raised it in a system called EAMS in 2022, which is a system to allow capital planning to consider capital projects and to prioritise. Then, in 2023, we had to raise an SBAR again to try and get this project moving to replace the tanks. So----

Q To replace the tanks?

A To replace the tanks.

Q It seems a little early to replace the tanks in a building that is less than a decade-- only a decade old.

A Yes, because it's-- the wrong type of metal was used initially.

Q But sticking with SBARs for a moment, so you see the downside of SBARs is when they have to be used because something else did not work?

A Yes, and that's the same with all walks of life, where people put in new processes hoping it's better than a process that isn't necessarily working correctly but----

Q Yes, but the SBAR process itself is effective-- It just-- Sometimes you wish it did not have to be used?

A Yes.

Q I am now going to just catch up with various little bits and pieces that do not make an awful lot of sense, but we will get there in the end. You mentioned broken blinds in your statement.

A Yes.

Q These are the internal blinds between two glass panels?

A Yes.

Q It has been suggested to me that when these are repaired, they require-- in a positive pressure ventilated room, they require to be pressure tested. Is that correct?

A If the-- You have to create negative pressure as part of the SCRIBE requirements, and if you're carrying out any work in a specific type of rooms, you have to create negative pressure. So that’s without the patient in the room.

Q So, if you were fitting a replacement blind in a window for a room that has any particular standard, any pressurisation regime, you would have to test the window?

A No, we have to create negative pressure by measuring the ventilation to ensure that the ventilation is extracting in the room.

Q But if you have taken the window out and put it back in, would you have to test the room?

A If it's a high-risk ward, then I think the room would have to be validated.

Q And that is ventilation validation?

A Ventilation validation.

Q Now, as far as you are aware, since you have been the operation manager for the new build, when blinds have been replaced in positive pressure ventilated lobby rooms, have all the windows been properly pressure tested and validated when they have been repaired?

A I don't know. I can't answer that.

Q Would you be able to find out? Is that how the system works?

A I'd have to see if-- what rooms those blinds have been replaced in. If they have any----

Q The reason I thought it was quite an interesting question is not so much because of the individual topic of, "Do you need to do that?" Obviously, you have told us you do need to do that, but can the record-keeping system in the hospital satisfy an inquiring mind that that sort of thing is being done every time? Is it capable of doing that?

A We'd have to check to see if rooms that are positively pressurised, have had blinds replaced.

Q And, in theory, there should be a record showing they have been validated when that is done?

A If there's a requirement to revalidate it, then there should be.

Q Right.

A But we'd need to see if-- and it'd be detailed on SCRIBE.

Q It should be detailed?

A Yes.

Q Right. Okay. Let us talk about the Ward 6A kitchen in October 2019. So that is bundle 12, page 998. Now, the reason I am showing you this email is not because you received it because I do not think you did, because there are some pictures attached.

A Yes.

Q And, also, I think you discuss the leak. Is this the same leak?

A Yes, it wasn't a leak as such.

Q What was it?

A The hot water boiler that sits on the wall, that provide boiling hot water for drinking, has a vent pipe at the bottom of it, and the vent pipe's purpose is to stop it over-pressurising. So if-- This can happen through overuse or quick use, and it fills up quickly, the air expands in it and the water has to come out through the vent pipe, and it will dribble along. Generally, what you do is you put that to drain over either a pin dish which is like a cup with an air gap or you can run it-- if it's close enough to the sink, you can run it directly into the sink. In this case, the boiler water, when it was coming out of the vent pipe, was dribbling along the sink line and going down where the tap was. When it went below the tap, it was landing on what appeared to be sawdust but potentially the original build behind the kitchen carcass.

Q We might have some pictures of it. So I am going to ask you to look at some pictures, which is bundle 27, volume 2, page 17. I mean, maybe you do not remember but-- and then there is also the next page.

A I remember----

Q And the page after.

A I did my own report on this as well.

Q Right. So, is this the same leak we are talking about?

A Yes.

Q And the reason it seems important is, what is the source of that sawdust and other material?

A It looked as though-- and obviously I can't evidence that-- That kitchen unit has been there from the original build. So the sawdust potentially was from when the kitchen was built.

Q Because if the kitchen had been replaced, or more work had been done, presumably, you would know about that.

A You would have cleaned behind it.

Q You would have cleaned behind it?

A Yes.

Q Right.

A You'd have noticed that-- Now, I mean, you can see the sawdust along the skirting, yes?

Q If we go back one, I think we can see it clearer. No, the other way. There we are. The first picture.

A Yes, so there's the dry sawdust there, and what was on the floor was wet sawdust. The minute that was cleaned up through one of our cleaning service providers, the floor was clean.

Q Can you actually help us understand something unrelated to it? On the left-hand side, is that one of these panels that you remove but viewed from the back?

A Yes, it is. It's one of those-- That's the kitchen carcass unit viewed from the back.

Q So when you are talking about removing panels and requiring an HAI-SCRIBE----

A It's not those.

Q It is not those. That is a shame. Well, (Inaudible). Right. Okay. Now, if you take that away, please, I want to ask you a little question about chilled water system. So the Inquiry understands that there was some form of failure in the chilled water system in April 2020. Are you aware of that? It was corrosion.

A There was ongoing corrosion issues within the chilled water system, yes.

Q What is the nature of the issue?

A It appears to be-- I'm not the expert on this, but there appears to be a number of contributing factors, either internal corrosion within the pipework or insulation around the pipework not being fitted correctly, allowing condensation to build up and cause for corrosion from the outside in.

Q And the pipes fail occasionally?

A These are thin wall carbon steel pipes. So they're thin at the best of times and, therefore, they just take a small amount of corrosion.

Q Because the amount of water in this system compared to the domestic system is quite low.

A Yes, but, still, given the size of the hospital, the circuits are significantly big.

Q And is this the same system that chills the chilled beams?

A Yes.

Q Right. There has obviously been some discussion about the potential for leaks at the connector point between the chilled water system and the chilled beams.

A Mm-hmm.

Q Is that something you have been aware of?

A Back then, before 6A was occupied, I believe there was a number of connections to the chilled beams that were basically push fittings, so that if you lose your control, it was on the hot, the chilled connections were fine. The hot connections to the chilled beams basically feel-- as you're heating, they basically expand and leak.

Q So, if the pipes cool because you turn-- the heat goes away----

A They open up

Q -- they will leak.

A They'll leak.

Q Right.

A But they were replaced.

Q So that is not related to the corrosion system as far as you know?

A No, that's completely separate.

Q Completely separate. Okay, and then have you had any involvement with investigating dust or condensation on chilled beam units?

A I believe I-- back when Darryl Conner was in charge of ventilation, I think he asked me to accompany Dr Inkster to look at some issues with chilled beams.

Q What did you find when you went?

A I was basically facilitating access, and it was more so that swabs could be taken.

Q Does this mean you're the guy holding the ladder, effectively?

A In effect, yes.

Q Did you get up to the chilled beams and have a look?

A I believe I looked at some of them, and there was some level of dust but that dust is from the environment, not from the ventilation.

Q I appreciate that. How is the chilled beam system designed to prevent condensation building up on it? Or if you

are not the right person to ask, we should ask Darryl, we will do that.

A I'm aware of what was done by Darryl.

Q Well let us talk to Darryl about that. We will do that.

A Yes.

Q I want to turn, finally, to the delicate topic of pigeons, which you have addressed in paragraph 87 of your statement. You mention that you arranged for bird netting to be added to courtyard areas. Why was it necessary to add netting to courtyard areas?

A I think it was recognised by the group-- I don't know who was involved in the assessment, but my colleague in facilities, David Macdonald, was requested to add that-- There's center courtyards built into the hospital, open to the environment with nice greenery there. Now, obviously it's going to attract wildlife. So they decided to put netting above that to stop any wildlife accessing it.

Q Was it attracting wildlife?

A Yes.

Q I mean, from your point of view, how would you characterize the issue of pigeons on the site in the time you have been there in terms of quantity and where they are?

A I've been up on the roof of the hospital even this week, and the amount

of birds that you see is, I would say, normal compared to any other building.

Q So, in terms of-- It is just normal for that sort of part of Glasgow, you see that?

Q I think it's normal for anywhere to have that bird population.

Q Well, we will ask somebody else about pigeons inside because I think you have not been dealing with that.

A No.

Q Now, the only other thing I wanted to ask you about was the issue of the taps. Now, we are going to ask you for information about the taps maintenance, as I mentioned to you. I want to talk about risk registers. So we have obviously seen the authorised engineer's assessment of risk, and yesterday we looked at the DMA Canyon report, and you are already so familiar with that, its approach to risk. Are you aware of whether the water systems of the hospital-- domestic water systems of the hospital are included on the Health Board's main risk-- corporate risk register as a risk?

A I am unaware if it is or isn't.

Q Well, we will find someone who can answer that question. I think that may be everything I have for this witness. Might we have a 10-minute break in case any of my colleagues have any suggestions?

THE CHAIR: We will do that. Mr Clarkson, Mr Mackintosh has indicated that he has asked you the questions he wants to ask. What I propose to do is just take maybe 10 minutes to find out if there is-- anyone feels that there is a question that has not been asked that should be asked. So if I could ask you to return to the witness room, and I think we have got good prospects of finishing by one o'clock.

THE WITNESS: Thank you.

(Short break)

THE CHAIR: Mr Mackintosh?

MR MACKINTOSH: We have five suggested questions, which I think I might as well just ask.

THE CHAIR: Right, and you are content to ask?

MR MACKINTOSH: Very happy to.

THE CHAIR: All right.

MR MACKINTOSH: They all make perfect sense to me.

THE CHAIR: Very well. Can we invite Mr Clarkson to return? Mr Clarkson, Mr Mackintosh has perhaps five or thereby further questions.

MR MACKINTOSH: Yes. So, one of the strange systems is that all the other counsel get to tell me what I missed out. So I have got a few questions to ask you. The first is, in respect of point of use filters, you explained that they were fitted to high-risk areas----

A Yes.

Q -- and that some two wards in the main adult hospital were no longer considered to be high-risk areas.

A Because the patients have moved.

Q Yes. So, what is the definition of a high-risk area, as you understand it, from the point of view of these filters?

A You'd have to speak to a microbiologist in Infection Control to determine that element of it. It's where there is a potential risk of water where somebody's got-- immunocompromised.

Q I think we are-- What are the wards that currently have point of use filters that are currently assessed as high risk?

A I can't write them off the top of my head, but there is a list.

Q There is a list, and it is defined by microbiology?

A It was. In 2018, I think the Water Technical Group and the relevant people there looked at the various wards and agreed to fit those point of use filters.

Q And that has not changed in definition since----

A It hasn't changed in definition.

Q Well, that is fine. We will pick it up with somebody else.

A It hasn't changed in definition.

Q In return----

A Sorry, other than those two wards----

Q Wards which are no longer.

A -- which are no longer.

Q Yes, of course. So, we will pick it up, some other person. In respect of the blinds/windows issue I asked you about, do records exist to show that any blind and window that has been repaired in a room which has a designed pressure differential for the corridor is repaired? Has it been validated? Are there records of all those validations?

A I would have to check with the relevant people.

Q Should there be records of all those validations?

A If there's a requirement to re-validate after the structure has been altered, then, yes.

Q But you do not quite know whether it exists in the past?

A No, because it would be the ventilation team that would be looking after that aspect. It would engage with the contractor to do the re-validation.

Q Would it exist now? Is it something that happens now?

A I'm aware that-- We're not directly involved in these things, but I'm aware that when some structure has been changed in rooms, they'll potentially

be re-validated, but we'd have to ask the APs for mechanical systems.

Q Okay. Right. Now, we----

THE CHAIR: Small point of detail, just again that I am keeping up. I am assuming, when we are talking about blinds, windows and pressurised rooms, that this arises out of a design feature at the hospital whereby, if the room is on my right and the corridor is on my left, the room will have a window facing the corridor. There is then a blind and then a foot-- Well, when I say a window, a glass pane. There is then a blind, and then another glass pane. Have I got that?

A I think that-- because the blinds I was referring to are the ones that are to corridors in general, and----

MR MACKINTOSH: And they are internal between two glass panes?

A Yes, an internal unit. I would have to see what those units are, but, in essence, yes, it's a blind between two panes of glass.

THE CHAIR: It is just that when one would naturally think of a blind, you think of a blind just hanging beside the window, but in the hospital, as I understand it, the blind mechanism has a pane of glass on each side.

A Yes, it does, and that is because of the infection risk of having blinds to clean.

Q Yes. Thank you.

MR MACKINTOSH: Can I ask you to go back to bundle 27, volume 2, page 18? Page 18, yes. So, in your statement, at page 78, you say:

> "However, what was initially perceived by others to be saturated walls, was in fact paint line finish, i.e. where the builder did not paint the entire wall behind the kitchen to the floor. On initial viewing, it showed two different colours."

I have been asked-- This looks like water staining here in this photograph. Would you agree?

A It does look like water staining.

Q Did you take this photograph?

A No.

Q No? You took your own photographs?

A Yes.

Q Right. Now, when it comes to the out of specification system in the Water Safety Plan, we have shown you bundle 27, volume 1, page 396, which we could get up on the screen again. Yes. Now, it is our understanding that this is the document that had its origins in a discussion between Mr Powrie and Dr Inkster back in 2018. Now, I happened to look during the break and I see that this table does not appear in revision C of the Water Safety Plan.

A Yes.

Q Could it be it has been added in as part of your improvements?

A In version C, I think I made reference to WQS 17, which is the procedure which this was in.

Q So, you are drawing material from other documents?

A Yes, and these newer versions, rather than making references to other documents, it's bringing them all together into one area so you've got one.

Q So, the equivalent of this document has been around----

A For a good number of years.

Q -- for a good number of years. What systems exist to review this list?

A Actually, it's been reviewed now by the National Infection Control Manual, chapter 4, which is giving guidance on----

Q On some of these?

A Yes, all of them.

Q The reason I ask that is because since this was originally created by a lead Infection Control doctor and an Estates manager together, I wonder why there was not reviews internally in the hospital between the current lead Infection Control doctor and yourself?

A I think partly because of the lack of national guidance on this. I think there wasn't a desire to change, to make it any looser.

Q Because one of the criticisms

that can be made-- and this is a better criticism directed at the Infection Control doctor than you, but I think since it was originally a team effort, I am going to ask you anyway. One of the criticisms that is made of the way that NHS GGC in 2018/'19 was reviewing specification and out of specification results is that it seems to be too reliant on the mandatory reporting microorganisms and not sufficiently critical about the other ones.

Now, I do not know whether that has any validity, we will get into that, but the same question might arise here. If there has been an exercise in constructing this list in 2018/'19, would it not be better to keep reviewing it in case you add more or take things off over the following years?

A Yes.

Q But that has not happened?

A It hasn't happened, but that covers all-- GNB covers all gram-negative bacteria. So that's currently at 0, the MS is 0. We're actually going to stops-- When you say a review, we've actually inadvertently done a review as well, because there was an SBAR done by a microbiologist based on mould results and to start removing-- stop sampling for mould and yeast other than in the tank rooms.

Q So, you have been doing some reviewing----

A Yes.

Q -- in the mould area?

A Not directly reviewing as per every year doing that, but we have taken steps.

Q And you would also make the point that you cannot really review lower than 0 for gram-negative bacteria.

A Yes, and under the new guidance, under the National Infection Prevention and Control Manual, chapter 4, Legionella is going to be 0. Pseudomonas is now 0. So that's been reflected in version K.

Q So, you have moved on. The next version no longer has pseudomonas under 10, it has it at 0.

A Yes.

Q Right.

A So, yes, you would see a change between the draft version and this version.

Q I think that may be all the questions I have.

THE CHAIR: Can I just check with the room that you have accurately carried out your instructions?

MR MACKINTOSH: Well, this is one of the downsides of this role is, I have to translate my colleagues' thoughts.

THE CHAIR: Are there any outstanding questions? Right. If I am reading the room correctly, the answer to that question is no.

MR MACKINTOSH: So, Mr Clarkson, what we will do is we will send you a questionnaire about the maintenance regime for the TMTs. We will ask you to send us the history document that you produced and we will add that to our documents, and you have explained its relationship to Mr Leiper's paper, so we can see the two relate to each other, and we will ask you to send us the current circulation list for the microbiology and specification results, and we will add that to our note of what you said.

A Thank you.

Q Thank you very much.

A Thank you.

THE CHAIR: Mr Clarkson, thank you very much. You have now answered all the questions you have been asked and are free to go, but, before you go, can I just express my very warm thanks, not simply for your attendance this morning, but for the very considerable amount of work that the Inquiry has required of you. I am, first of all, conscious of how much that involves, and can I say thank you for that work and for your attendance today. Thank you.

THE WITNESS: Thank you very much.

(The witness withdrew)

MR MACKINTOSH: My Lord, the witness this afternoon is Mr Colin Purdon at two o'clock.

THE CHAIR: We will try and sit again at two o'clock.

(Adjourned for a short time)

THE CHAIR: Now, Mr Mackintosh.

MR MACKINTOSH: Our witness this afternoon is Colin Purdon.

THE CHAIR: Good afternoon, Mr Purdon. As you will understand, you are about to be asked questions by Mr Mackintosh, who is sitting opposite. First of all, I would ask you the-- I am not sure whether you would prefer to take the oath or the affirmation.

THE WITNESS: The affirmation.

THE CHAIR: Affirmation, right.

Mr Colin Purdon, Affirmed

Thank you, Mr Purdon. Now, we usually sit in the afternoon between two and four, may go beyond four if that is necessary. I do not plan to take a break, but if at any stage in your evidence you-- for whatever reason, you want to take a break, just give me an indication, and we will do that. Now, Mr Mackintosh.

MR MACKINTOSH: Thank you, my

Lord.

THE CHAIR: Thank you.

Questioned by Mr Mackintosh

Q Might I ask your full name and your occupation?

A My name is Colin George Purdon, and I'm currently head of estates at NHS Golden Jubilee.

Q Now, I suppose the first question is, you produced a written statement?

A Yes.

Q Are you happy for that to be adopted as part of your evidence?

A Yes.

Q Thank you. Now, you mentioned that you are currently working at the Golden Jubilee. Is that part of NHS Greater Glasgow or a separate trust?

A It is a separate trust.

Q Thank you. Now, when you worked at NHS Greater Glasgow in Clyde, where were you working in 2015, at the start of that year?

A At the start of 2015, I was working at the Royal Alexandra Hospital in Paisley.

Q And that would be in the Clyde sector?

A That's correct, yes.

Q And did you come to move to the Queen Elizabeth University Hospital in August of 2015?

A Yes, I did.

Q And what was the first role that you had there?

A The first role was as a senior estates manager, and I looked after what was termed the "retained estate" on the site.

Q So, that would have been all the buildings on site that were not built by Multiplex Brookfield and the laboratory block?

A Yes, so all of the older buildings that were part of the Southern General Hospital, but I also had the laboratory block which was built by Multiplex – that was under my remit – and the teaching and learning centre and office building. So those were newer buildings, but they formed part of the retained estate.

Q Thank you. When did you----

THE CHAIR: Can you just help me with geography? Thinking in relation to the new adults and children's hospital, there is a block which is absolutely opposite, maybe, I do not know, 30 meters away. That includes administration offices, as I understand. Does it also include the laboratory?

A It does, yes.

Q Right. Thank you.

MR MACKINTOSH: Now, in your first role, you were responsible for

retained estate and the laboratory block and some other buildings, and then did you move in December 2018 to a more senior role?

A Yes.

Q What was that?

A That was an interim role as the sector estates manager for the South Sector.

Q And that is the whole of the South Sector?

A That's correct.

Q Would that mean more than just the Queen Elizabeth University Hospital campus?

A Well, no, it encompasses the whole campus.

Q Does it encompass any other hospitals?

A No, no other hospitals or off-site properties.

Q It is just the campus?

A Just the campus, yes.

Q Both retained and new build?

A Yes.

Q And you started there in December '18, and when did you finish that role?

A February 2020.

Q And then you were promoted again?

A It was-- Yes, I was promoted again. It was a seconded role I was in, as the interim, just a temporary role and I was awarded a full-time role within the Clyde sector at that time.

Q You were not estate-- assistant head of estates at one point?

A Yes, that was a new title that was given to that role.

Q So, when you were assistant head of estates, did you have responsibility for the Queen Elizabeth Hospital?

A No, I was-- during my time at the Queen Elizabeth Hospital, I was the interim sector estates manager.

Q So, you were only at the Queen Elizabeth Hospital from August '15 to February 2020?

A Yes.

Q Right, that is good to clarify that. Now, what I want to do is start initially with that first two and a half years, August ‘15-- three and a half years, August '15 to December '18, and when you were managing the retained estate, what role did you have in obtaining L8 risk assessments for the buildings you were managing?

A The L8 risk assessments were already in place when I took up the role. So those had already been established. The assessments had been done, were documented and delivered back to NHS Greater Glasgow and Clyde.

Q Because we have heard some evidence that the L8 risk assessment for

the retained estate was done in 2016. That sound correct to you?

A It may be an update or a review of the risk assessment that was done at that time.

Q And how often should a risk assessment be repeated or reviewed?

A Depending on whether any major work had been carried out to a water system or any major changes in legislation, then the risk assessment would be reviewed.

Q So, how often would that practically mean for a building that is not changing?

A It could be two to three years.

Q Would it surprise you that there has been evidence that the L8 risk assessment for the retained estate from 2016 was not updated until 2021?

A Yeah. It would surprise me, yeah.

Q Okay. Now, who was the senior estates manager, effectively your line manager, when you were working in the retained estate?

A Ian Powrie.

Q Right, and would he have been sector estates manager or a different title?

A Yes, he was the sector estates manager for south at that time.

Q So, you effectively stepped into his job when you were promoted?

A Not exactly. So I think Ian-- I'm not clear on timelines and when this actually happened, but Ian had actually moved out of that role and had moved to Clyde for a period of time and Andy Wilson had taken over.

Q So, you replaced Andy Wilson who had previously replaced Mr Powrie?

A Yes.

Q In simple terms.

A Yes. So, yeah, Ian Powrie was the sector estates manager. He moved to Clyde when Andy joined the organisation and Andy took over as the sector estates manager. Andy subsequently moved to Clyde and Ian came back and when Ian retired in late 2017/early 2018, I took over.

Q So, you took over from Ian Powrie? That is what I want to be clear about.

A Yes, yes.

Q Right, okay. Now, when you took over responsibility for the laboratory block in August of 2015, it had been built for a couple of years at that point, had it not?

A Yes, it had.

Q Yes. Would you have been able to access the commissioning of validation results for that building on the Zutec system?

A I would have been, yes.

Q And did you see them?

A I don't recall ever having looked for them, to be honest.

Q Okay. Now, in your statement, we asked you some questions about validation, and you explained that you do not have knowledge of validation, but whilst preparing for this, I noticed that you are discussed as a possible-- someone present during a validation, and I want to just put something to you. This is bundle 12, page 418. So this appears to be an email thread, and if you go down to the bottom of the page, you see there is an email from Jackie Barmanroy on 3 September at 09.45. If we go on to the next page, we see the text, and it is-- you are not copied in and it is not sent to you, but it says-- the subject is "Air Permeability Validation July ‘15", and then it mentions, "Can I ask you to contact estates to send a representative, perhaps David Brattey or Colin Purdon?" Were you ever asked to do this work?

A No.

Q No. Had you been----

UNKNOWN SPEAKER: It is not working in the back of the room. I’m very sorry.

MR MACKINTOSH: Oh, the screen is not working.

THE CHAIR: Okay.

MR MACKINTOSH: What I will do is, I will move to a section that does not require this document and we will come back to this. So we will do some stuff without documents. So, what I wanted to do is ask you about the Zutec system in isolation. Did you have occasion to use the Zutec system when you worked at Queen Elizabeth?

A Yes.

Q And what do you understand it is for?

A The Zutec system was a cloud-based document vault, basically. So it held all of the documents that were generated during the construction phase of the laboratory building and the adult and children's hospitals.

Q And so, as far as you are aware, did it contain all the documents you would expect it to have contained?

A I couldn't say if it contained all of the documents. There are thousands-- --

Q Were there ever times when you went to look for documents and they were not there?

A Yes.

Q What sort of documents were not there?

A Drawings, schematics, quite a few documents. Probably best to clarify, it's maybe not a case that they weren't there, but they were very difficult to find.

Q I see. That is helpful. Right. Now, if we can go back to the document I was just showing at page 419 of bundle

12, which hopefully shall now appear on the screen----

THE CHAIR: Can I take it that the documents are now visible?

MR MACKINTOSH: They are not visible yet. It is just me at the moment. No. There is nothing on the screens. I will move on to something else that doesn't require the documents. I want to understand whether you are a trained authorised person (water).

A No, not an authorised person, no.

Q Okay. Right, right. When you arrived onsite as the manager of the retained estate, were you aware of there being appointed authorised persons and-- for the site?

A No, I'd say I wasn't aware of who they were when I arrived on site.

Q When did you become aware of who they were?

A I can't recall.

THE CHAIR: When you say you were not aware of them, were you aware or not aware as to whether there were authorised persons?

A I couldn't see who had been appointed as authorised persons.

Q Well, that is my question. Is it-- Were you aware that anybody had been appointed an authorised person?

A No.

THE CHAIR: Right. Thank you.

MR MACKINTOSH: From your point of view as a manager, what impact does it have on what you are responsible for if there is no authorised person for the building you are managing?

A It makes it difficult to assess certain situations in relation to water safety. So, you require a trained competent person to manage the system and the authorised person would be the person that you would go to.

Q So, if you-- if there was not an authorised person or a building you were managing, presumably you would go and get one, appointed, to make a fuss about it?

A Yes.

Q Did you, in your case?

A I can't recall.

Q So, if the fact that there was not authorised persons appointed-- Well, can I-- when the documents come back, I am going to show you a document, but I am going to move on to something else at the moment. Well, let us see if we can get-- Well, let us see if we can get the document up. We are going to go and look at bundle 18, volume 2, page 870. 870. No, bundle 18, volume 2, page 870. No. Yes, that one. So, have you seen this written scheme for Legionella control from December 2016 before?

A I believe I may have seen this, yes.

Q Yes. Could I ask you to step forward a couple of pages? One more. Two more after this. Yes, this page here. So this appears to be the hierarchy appointment table in a written scheme in an update in December 2016, and it appears to identify you as the person responsible for-- deputy responsible person for water. Do you see that?

A Yes.

Q And the authorising person for the-- authorised person for the newer build is Jim Guthrie, but there is no authorised person for the retained estate?

A No.

Q Would it have been your responsibility to encourage someone to appoint someone?

A Yes.

Q Yes, but there was someone at that point?

A I can't recall who would have been the authorised person.

Q It has been suggested-- In your statement you describe receiving the 2015 DMA Canyon L8 Legionella assessment at some point in 2016. I need to ask more questions about how you received it. Do you-- Can you help us about whether you received a hard copy or electronically?

A I can't recall receiving it. I don't recall whether it was a hard copy

that was presented at a meeting or whether it was emailed to me.

Q Okay. Well, could I ask you-- before we ask some more questions about that, I need you to look at bundle 25, document 35, page 678. Yes. This is a letter which we heard evidence from Mr Watson of DMA Canyon yesterday, that bears to be addressed to you on 8 November 2016. Have you seen this letter before? We asked you to look at it the day before yesterday.

A I think so, yes.

Q Yes. It appears to be a quotation from DMA Canyon for updating their risk assessment for the adult hospital. Do you agree with me?

A Yes.

Q And, therefore, Mr Watson's view is that somebody, presumably you, but I suppose potentially Mr Powrie, must have asked him to provide this quote.

A Yes.

Q Do you remember that?

A I don't specifically remember asking for the quote, but I don't dispute the content of the letter.

Q Right. Now, at this point in November 2016, you were still only a manager for the retained estate.

A Yes.

Q So, why would you be obtaining-- receiving a quote for the new build building?

A I'm not entirely sure. I may have volunteered to contact DMA and obtain a quote.

Q And if you were receiving a quote on 8 November '16 for a updated report, do you think it is possible that, as part of the events before this quote was sent, you received the 2016 report? The original 2015 report?

A I'm not sure.

Q Well, okay, let us work this through. You are being asked to-- You are being sent a quote to update the L8 risk assessment for the hospital. Do you think it is possible that in the weeks before this letter arrived by email, you had seen the 2015 DMA Canyon L8 risk assessment, the one that is to be updated?

A Yes, it's possible.

Q Possible. Could that be the incident you are talking about in your statement, but you cannot remember how you got it?

A Yes.

Q Right. I think I should put to you that, because Mr Powrie is copied into this, that this could not be you acting by yourself; that he or other members of the team must also have been aware that you were getting a quote to update the risk assessment. Would you agree with that?

A I would.

Q Right. Was the work actually done at this point?

A I couldn't confirm that.

Q Well, if we can look at the actual follow-up report, which is in bundle 6, page 122-- sorry, page 146-- 416.

THE CHAIR: The-- Entirely my fault, Mr Mackintosh. It is the bundle number for the letter of 8 November?

MR MACKINTOSH: This is a new bundle, bundle 6.

THE CHAIR: Yes, we are now in bundle 6.

MR MACKINTOSH: Yes, bundle 6, page 416. 416. Oh, the previous one? The previous one is----

THE CHAIR: Entirely my fault, I apologise.

MR MACKINTOSH: -- bundle 25.

THE CHAIR: Thank you.

MR MACKINTOSH: Document 25-- document 35, page 678.

THE CHAIR: Thank you very much. Sorry about that.

MR MACKINTOSH: My Lord. This letter at-- this document at 416 bears to record a site survey happening in September 2017. Do you see that? Yes, and the letter we have just shown you is November 2016. Are you able to help us about why it took from November '16 to September '17 for the reassessment that you were quoted about to actually take place?

A I could only assume that it-- I mean, it is a large system, it's a large hospital, and it would have taken a significant amount of time to complete the risk assessment.

Q Well, Mr Watson's evidence is that the work started soon before 8 September. It did not start in 2016, it started in 2017. Why would it have taken some matter of more than a few months to go from a quote, to having the work done?

A I don't have an explanation for that.

Q Could it be that you were helping out with aspects of the management of the new building while your primary responsibility was the retained estate?

A Yes, it could be.

Q Yes, and in that work with the new building, somehow you came to either be volunteered or volunteer to obtain this quote?

A Yes.

Q Yes. Having obtained the quote, whose responsibility would it have been to decide whether to carry out the work at that price?

A I would say either David Brattey or Ian Powrie.

Q So, we should ask them?

A Yes.

Q But from your point of view,

what did you think when you saw the DMA Canyon 2015 report at some point in 2016 about what it was saying about the water system of the new hospital?

A I didn't read it in detail, and I think the reason I didn't do that is because it wasn't directly-- I wasn't directly involved in the adult and children's hospitals.

Q But Mr Purdon, you were sufficiently involved to receive the quote, so you presumably knew the scope of the work to get a quote. Do you accept that?

A Yes.

Q And so could it be that you had to read some of the report in order to realise that more work needed to be repeated?

A Yes.

Q Can we look at the report, which is on page 122? Now, if we just stick in the first few pages, if we go to page 137, do you see how this is the second page of a Legionella risk assessment with a number of high risks entries?

A Yes.

Q It is on page 16 of the document, you can see the bottom right-hand corner. If we go back to the previous page, sorry, page 136, we see more detail about the hospital system, and if we go forward to page 142, we get a series – and there are lots of these – of

pages with red flags against remedial action categories.

A Yes.

Q I put it to you that in order to obtain the quote, you must have noticed that there were high levels of red flags in this document.

A Yes.

Q So what did you do about it?

A I can't say that I did anything directly. All I can say is that my remit was the retained estate at that time and that was the focus of my duties. I probably assumed that others were tasked with ensuring that these remedial actions were carried out.

Q Okay, if we can deal with-- move on to 2018. In 2018, you were asked to help with certain events in what some people call "the water incident." Is that something you recollect?

A Yes, I do.

Q What do you understand to be "the water incident"?

A The water incident was, I believe, a series of gram-negative bacteria infections in patients within ward 2A that started off a series of IMT meetings.

Q And roughly what point in 2018 is this?

A This would be early 2018. I think it was February.

Q Right, and was a Water Technical Group set up as a consequence of an IMT?

A It was, yes, later in 2018.

Q And, in fact, if we go to bundle 1, page 63, do we see an IMT on 12 March 2018 which you are present at, chaired by Dr Inkster, which reports an update on the incident in the third paragraph?

A Yes.

Q And could that have been the IMT that set up the Water Technical Group?

A It could have been. I don't recall exactly when the Water Technical Group was requested.

Q What I want to do is to look at some of the entries in this. If we could scroll down to the bottom half of the page and over onto the second page, it says:

> "Control measures. Due to the number of positive results which came back, emergency measures were put in place on a Friday evening, which include the following: all showers out of use for patients; sterile water for drinking; bottled water for washing and bathing; for younger patients wet wipes will be provided for washing."

Now, whilst I appreciate that at the time you saw the DMA Canyon report you were the manager for the retained estate,

do you think this might have been a good time to mention the 2015 Legionella assessment that you had seen?

A Yes. Yes, it would.

Q But you did not mention it at this point?

A I can't recall.

Q Well, it is not minuted and it appears from other documents that senior management at Health Board do not discover the report until the early part of July/late June of this year. So we are in March-- sorry, we are in March and unless someone tells them, they do not know about it, and you did not tell them.

A No.

Q No. Can we look, please, at the bundle 10, document 1, which is the Water Technical Group's first meeting minute? Now, before we go into the detail in here, I would like to understand what everyone is doing in this meeting, because I understand it is chaired by Mary Anne Kane, Mr McLaughlin from HFS is present, Annette Rankin from HPS is present, and they are external to the Health Board?

A Yes.

Q Yes, and then there is yourself, along with Mr Gallacher?

A Yes.

Q Now, he is not on the operation side of estates?

A No.

Q What does the corporate side of estates do in this context?

A Corporate side looks at compliance and training.

Q So why would a general manager of estates charged with compliance be present at a Water Technical Meeting about an outbreak-- a potential outbreak?

A Alan Gallacher was a senior manager at the time, general manager, and I can only assume would've been brought in for his experience and the fact that this may have been a compliance issue.

Q Right. Well, we will ask him more when we see him. Right, and then we have got Mr Powrie there and yourself. Why is it necessary to have both of you?

A I had been in attendance at most of the IMT meetings, I had taken a number of actions from those. I think because I had been involved in working through the incident, I was brought into the Water Technical Group to look at it in a bit more detail.

Q Now, as we see at the bottom of the screen, the subject of the Horne Optitherm taps came up.

A Yes.

Q And there is a discussion about why there might be contamination of the taps. Do you remember that?

A Vaguely remember that, yes.

Q Did you have any awareness of a meeting taking place in-- before you arrived in 2014 about the Horne Optitherm taps and how they should be-- whether they should be used and how they should be maintained?

A No.

Q Is that something you would be aware of?

A No.

Q Can I just double-check by showing you a document? It is bundle 15, page 692. We will come back to this one. So this is a minute we have from 4 June 2014 of a meeting which you are not present at, although, to be fair, Mr Gallacher is and Mr Powrie is, and if we scroll to the end of the minute, over the page and keep going past the discussion, at the very end, South Glasgow Hospital. There we are. Do you see how there is a discussion-- action arising which is described at the bottom of 5.3 as:

> "There was no need to apply additional flow control facilities or remove flow straighteners and any residual perceived or potential risks would form part of the routine management process."

A I see that, yes.

Q Yes. Now, obviously, you have not seen this before.

A No.

Q But were you aware, back in 2018, of any routine management processes being carried out in respect of the Horne Optitherm taps?

A No.

Q Was there any instruction to you to have them cleaned in a particular way, at a particular frequency?

A Prior to 2018?

Q Yes.

A No.

Q During 2018?

A I think, after the incident, when we looked at these taps in a bit more detail, there were decisions made about the flow straighteners and how they had to be exchanged on a regular basis.

Q But before then there was not?

A No.

Q No. Okay. Now, if we go back to the water technical bundle which is bundle 10 and look at page9, please. Now, this is another meeting of the Water Technical Group on 13 April. You are recorded as being present with Mr Powrie and Mr Gallacher, along with other people. If we could go to page 10, there is discussion, I want to see if you recollect this. I am just going to forget my own note. There we go. Yes, do you see how there is a section which begins, "Agreed to…"?

A Yes.

Q And then, below that, there is a centre paragraph that begins, "The group ask aware…"?

A Yes.

Q Then, below the two bullet points:

> "It was noted that every floor had positive and negative readings, thereby this would indicate a widespread water infection."

A I see that, yes.

Q Do you remember that being discussed?

A I don't recall it.

Q What's the system in an IMT or a water technical where minutes are circulated, if you do not agree with the minutes?

A You should make any corrections.

Q Did you attempt to correct these minutes?

A I don't recall.

Q Well, from your point of view, looking back at it now, would the Inquiry be entitled to work on the basis that this is an accurate description of what was discussed at the meeting?

A Sorry, I don't really understand.

Q So, it is a minute that records what was discussed at the meeting. Are we entitled to rely on it as a record of what was discussed at the meeting, or would you say something else happened?

A Yes, it should be an accurate----

Q But you do not remember?

A It should be an accurate record.

Q Okay. Can we go to page 14, please? This is another meeting, this was on 20 April, and I see you are present along with Ian Powrie and others. At the bottom of the page, it begins, "Way forward," and the minute records:

> "Every floor is showing some contamination with various species, so we can assume there was widespread contamination of the buildings. A view of the commission data indicates there was a TVC which is off the scale. We now need to determine the way forward and solution to the contamination."

I want to ask you a couple of questions about this. Firstly, what do you understand to be the meaning of "contamination" in the context of water?

A Contamination would be anything within the water system. That could be foreign debris or bacteria that's out of normal levels that you would expect to see.

Q So, it has been suggested by

others that contamination is only really chemicals, and that if there is bacteria and microorganisms, actually the correct term is colonisation. Is that something you have heard of, or----

A Yes.

Q Heard of that. So, you would see them as also synonyms?

A Yes.

Q Right. Now, again, do you remember this discussion happening?

THE CHAIR: Just so I heard that correctly. In this context, contamination can be regarded as a synonym----

MR MACKINTOSH: A synonym to----

THE CHAIR: Colonisation?

MR MACKINTOSH: Colonisation, in your mind?

A Yes.

Q Right.

THE CHAIR: Thank you.

MR MACKINTOSH: Do you remember this meeting?

A Not specifically, no.

Q No. Do you remember this awareness that I am pointing you to of a concern about contamination coming up in these meetings?

A Yes.

Q Yes? And so that was a view that was taken by some people?

A Yes, absolutely.

Q All right. What role can out of temperature-range hot and cold water play in the growth of microorganisms in water?

A Well, temperature is the primary control measure for bacteria and water systems. So within a hot water system, you want to keep it as hot as possible within a safe range, so above 50 degrees, and in cold water, below 20, to stop proliferation.

Q So, if you are managing a water system and you find evidence that there is out of temperature readings in particular locations or particular systems, is that something you should act on?

A Yes.

Q Why did you not act on that when you read it in the 2015 DMA Canyon report?

A I can't explain that.

Q Was there a system in place at the time – that is late 2016/'17 – which, as it were, would have caught the contents of the DMA Canyon report before it had to rely on you seeing it by chance?

A I don't think it solely relied on me.

Q No, I do not think it did, that is what I am trying to find out, but before it got to you, it was not picked up. Was there a system that should have picked it up?

A I don't know that any system

was in place that would have picked that up. I can only make an assumption that, when the risk assessment was submitted, it should have been read, discussed and an action plan drawn up.

Q So, in effect, the system, then, to the extent that it is a system, relies on people reacting to documents they are sent?

A Yes.

Q Or conversations they have, or phone calls?

A Yes.

Q And there was not a management system then in place to prompt them to react?

A I don't believe so.

Q It was there by the time you left, such a measure?

A Yes.

Q What was it called?

A What was the system called?

Q Yes.

A Well, the-- either the Water Safety Plan or the written scheme.

Q Written scheme, and was there a management software for Facilities Management that would have also prompted actions by members of staff?

A Are you referring to the FM First, the----

Q Yes.

A -- computer-aided facilities management system? Yeah, yeah, that system was in place.

Q Was that in place in 2015?

A Yes.

Q But maybe not working?

A Maybe not working to its full potential.

Q Yes, all right. Now, I want to look at the question of what the Water Technical Group members knew about the DMA Canyon 2015 risk assessment. Do you think they knew about it?

A The Water Technical Group?

Q Yes.

A Yes, I believe it was tabled at some point. I couldn't recall which meeting.

Q It might have been tabled in June or July after it had been discovered, but in the first four or five months of its existence, do you think the members knew about it?

A I couldn't say.

Q But you knew about it?

A Yes, I suppose I did, yes.

Q Yes. Now, I want to look at the question of debris found in tanks, because you raise it in one of your responses, and I want to check that, your answer at 139, that we are talking about the same piece of debris, because it would be helpful. So if we just look at your statement, page 139-- Sorry, it is not page 139. It is question 139, which is page 181. At the bottom of this page,

you make reference to a cleaning sponge being found in the tank.

A Yes.

Q Now, I found the report, an Intertek report, so I want to see if it is the same sponge, because that at least tells us whether it is one sponge or two sponges. So that is at bundle 6, page 645. This is some photographs from an Intertek report that was taken in-- the report dates back to July 2018. Do you think this could be the same sponge we are talking about?

A Yes, I believe it is.

Q Right. Do you recognise it, in fact?

A I do. I also recognise the writing on the bubblewrap. That's my writing.

Q Oh, right. Well, that is extremely helpful. So, we have nailed that down. This is in the summer of 2018, June/July?

A Yes.

Q Would this have been after the existence of the 2015 DMA Canyon report come to wider knowledge?

A I believe so.

Q All right. Now, in paragraph 94 of your statement, which is on page 165, you are asked about sterilisation of the water system. Now, obviously you have reminded us that Mr Kelly, Dr Mackay, and Mr Wafer(?) were involved in fitting the chlorine dioxide system, but I wanted to ask you some practical questions as a manager. What are the differences between running a water system in a hospital where the primary control is temperature or filtration, and one where you add on chlorine dioxide? From your point of view, what difference does it make to management?

A So, I think what you are asking is-- The chlorine dioxide, I would say it's a secondary control measure. So if temperature is not sufficient and you have instances where you have bacterial growth or repeated bacterial growth, then you need to look at a secondary control measure, which is where chlorine dioxide was brought in.

Q And does it impose any particular management problems for the user, as it were?

A It does. There are additional tasks that need to be carried out in order to monitor the chlorine dioxide dosing plant, and also the levels of chlorine dioxide in the system.

Q So, why do you need to monitor the levels in the system?

A You need to keep it within safe levels. So to keep it within safe drinking water levels, it needs to be below 0.5 parts per million.

Q And do you also need to make sure it reaches sufficient concentration at

taps long distances from the plant room?

A Yes, that's correct.

Q And how would you do that?

A By remote monitoring. So you can take water samples from remote locations and test it onsite to establish what the levels are.

Q And you would have to have a system for that?

A Yes.

Q Right. I am going to turn now to the decant of Ward 2A/2B of the Schiehallion Unit to Ward 6A in September 2018. We can take that off the screen. When did you first learn there was going to be a decant?

A I can't recall exactly. It----

Q Well, let us look at your questionnaire responses. Question response 158A, and that is on page 190. So you have stated there that:

> "I recall that, after a patient infection suspected to be linked to bacteria in the water system, after a decision taken by the IMT, the patients were to be transferred to 4B and 6A."

So I want to just check why you thought the decision was made by an IMT?

A It was a collective decision. That's the role of the IMT Group. That has clinicians, consultants, that has Infection Control, a microbiologist; it's a group decision, it's not something that an individual would take on themselves.

Q I appreciate that, we just-- We have an alternative document we want to show to you, which is bundle 19, page 614. Now, this bears to be a minute-- a draft meeting note, sorry, of a water review meeting. Now, back in 2018, were you aware of the existence of a water review meeting?

A I can't recall that.

Q I mean, you were not there, in your defence.

A No.

Q No. The reason I wanted to explore why you think the decision was the IMT is because of what this minute says. If we could go onto the second page, so that is page 615, and the heading "Decant of 2A, 2B and 4B," and it says:

> "It was agreed that due to the biofilm being found in some sink areas in this ward and the patient demographic, it would be appropriate to decant this patient group to another area in order to carry out investigatory works and get to the bottom of this problem."

If we look back at the previous page, at those present at this meeting, does it seem that this might have been

the organisation-- the group that made the decision?

A I think this was a discussion about a decision that had been made, so it was maybe recorded at this meeting.

Q Right, okay. Well, let us go and look at the IMT meeting that relates to this. Were you at the IMT meeting on 18 September that followed the decision, or was at the decision, which is page 365? Sorry, it is bundle 1, page 365. My mistake. Now, you are not present at this meeting.

A No.

Q No, and if we could scroll down to further down in the note-- Well, firstly, look at the time of the meeting. The meeting time is at two o'clock on 18 September. So, you were not at this meeting. Well, let us ask you one you were at. So the previous meeting is on 13 September, and that is on page 360. So were you at this meeting?

A Yes.

Q And there seems to be a discussion about various aspects of the investigation which I will not go into with you today, but if we go on to the second page, which is page 362, the headline is "Risk management control measures," and you see it says:

> "Draft appraisals option papers being developed should an alternative accommodation in 6A be required for this group of patients. This will be taken to senior executive management."

A Yes.

Q Do you remember that happening?

A I don't recall that.

Q Well, perhaps we will ask some more people who are at that meeting.

A Yes.

Q I want to just clarify, how did you learn about the decant?

A Through the IMT groups.

Q But you were not at the meeting that immediately followed on the day of the decision?

A Probably the subsequent meetings.

Q Well, let us go look at that. There was a meeting on 20 September. That is page 370. You are not recorded as being present there. So how about 8 October? That is page 373. Are you present at that meeting?

A No, I don't believe so.

Q So I just want to check, could it be that you learned what you have reported in your statement from some other means rather than being present at the IMT that's being told by somebody?

A It's possible.

Q Right. Okay. That is really

helpful. Thank you. Now, looking at the time, I think I have got time to do this, I would like to look at your statement at paragraph 55 where we deal with portable HEPA filters which is on page 151. Now, maybe I am outwith your skillset here, so please tell me but what is your training level in respect of ventilation systems?

A I don't have any formal training in ventilation systems.

Q Well, we will just ask you what happened and we will ask our people what it meant but were you aware that--whether there was any validation or assessment of the efficacy of mobile HEPA filters before they were brought into the wards, as described in this question?

A Sorry, I'm not quite----

Q It has been suggested to us that with the mobile units, they are very good for some purposes, but where you put them in the room sort of matters.

A Yes.

Q And, as it was put to me by one of the Inquiry's experts, they are often exactly the place the nurse wants to stand because it is next to the patient, it is the middle of the room.

A Yes.

Q And where you should not put them is in the corner, and I wondered if, at this time this was going on, you

received any instructions or training or guidance about where these should be put and how that should be recorded or checked?

A I don't recall that we actually discussed where they should be placed in the rooms.

Q They sort of just turned up?

A No, they didn't turn up but there was discussion about how we could reduce the amount of contaminants within the room.

Q Yes.

A And it was suggested that these mobile HEPA units would be a good control measure. They would recycle the air, they would draw the air in through the bottom, through the HEPA filter and then discharge it again into the room, and that would reduce the amount of contaminants in the room.

Q But, beyond that, there was no discussion about where to place them or these sort of things?

A I don't believe there was any discussion about where to place them, no.

Q I would like to turn now to the subject of chilled beams, which you cover in your statement from paragraph 57 onwards. Next page. Yes. I do not think we need to actually go through it line by line, but might as well leave it up there while we are doing it. When did you first

become aware of an issue about water that might have been thought to drip from chilled beams?

A I can't recall exactly. I would say it was an ongoing problem that presented itself periodically within the adult and children's hospital.

Q Is this something you ever had any experience with before?

A No, not prior to my time at the Queen Elizabeth Hospital. No.

Q Were you given access to any guidance or about how to manage these problems of dripping?

A No, I don't believe it existed.

Q Elsewhere?

A Yes.

Q Yes, but it existed here occasionally as a problem?

A Yes, absolutely. Yes.

Q And what did you understand the problem or concern to be about chilled beams?

A My understanding was that-- So, whenever environmental conditions presented themselves, there was enough humidity in the air-- and the chilled water passing through the chilled beam was at a critical temperature, then condensation would form on the coils, and that would then drip to within the internal unit and ultimately into the room.

Q So this is important about keeping it on the right side of the dew point for that----

A Correct, yes.

Q And in addition to dripping from the chilled beams, were you aware of any issues around dust or dirt?

A Yes.

Q Did this cause any requirement for cleaning of chilled beams?

A It did, yes.

Q So, how was that done?

A I believe that a program was implemented----

Q So when you say "believed", is this when you were there?

A While I was there, yes.

Q Yes, and roughly when are we talking-- the program?

A I can't recall exactly.

Q Could it be 2018?

A Could have been 2018, yes.

Q Right. So, what is the program that was developed?

A So, there was a regular program whereby the technicians or maintenance assistants would go around, arrange access to the rooms and then open up the chilled beam and vacuum the dust from the matrix within the unit.

Q Would this require to be done after an HAI-SCRIBE?

A There would have been a standing HAI-SCRIBE document in place for that particular piece of work.

Q And I take it the patient would

have had to be out of the room?

A Yes.

Q And would the room require to be cleaned afterwards?

A Yes, I believe so.

Q In terms of time, how long does it take for your team to go and clean a chilled beam in a room where there is one of these?

A I couldn't say exactly. I would estimate that to be probably about 30 minutes to an hour.

Q But the patient has to be out?

A Yes.

Q Do you have to cover other things in the room?

A It would make sense to cover other items that can't be moved from the room, yes.

Q Because we heard some evidence this morning from Mr Clarkson about how you need to-- if you want to remove panels to get to pipework, you have to cover sinks and bedding and things, and then you have to clean it all afterwards. It is broadly the same for this?

A Yes.

Q Right.

THE CHAIR: If I can ask a question. When you said there would be an H-SCRIBE in place, can you just maybe tease that out a little bit? This is being asked to carry out the procedure

you have just described in relation to chilled beams. Now, what do you mean by an " H-SCRIBE in place”?

A So a HAI-SCRIBE----

Q HAI-SCRIBE.

A A HAI-SCRIBE is a sort of risk mitigation document. So the task would be described, and any control measures required would be documented on that and those would be implemented while the work is ongoing.

Q Right. So it is a list of things to do?

A Yes.

Q Right. So, the person doing it would look at the list and make sure he or she is going through the task. Is that how it works?

A Yes. So that they have all the appropriate control measures in place. It would be almost like a method statement.

Q Do they then document what they have done or not?

A I think it would only be recorded on their job ticket from the FM First system.

Q Thank you.

MR MACKINTOSH: What I wanted to understand is what you understood to be the cause of the water dripping off, other than the dew point. Was there any other cause?

A I believe on some occasions there was another cause, and that was

due to either the fittings on the hot connections to the chilled beam or the cold. I can't recall exactly. I think it was the hot connections, which had failed-- had loosened off due to thermal expansion.

Q So if the hot circuit cools, then there will be a size change and it will loosen?

A Yeah. So, the tolerance changes and it could lead to leaks.

Q Yes. I would like to turn now to the Mycobacterium chelonae IMT of 19 June 2019. That is bundle 1, page 320. Now, this is a heavily redacted document but let us just check you are there first.

A Yes, I am.

Q If we scroll down to the action points for Estates, which are-- suddenly I decided not to mark my own copy, but I will get there in a moment. Yes, the bottom of page 321. So, there is a report of a drain inspection. Do you remember this?

A I do remember drain inspections, yes.

Q So, what was going on in drain inspections?

A So, there was a-- I suppose a suspicion that the drains could contain different types of bacteria, and that somehow there was a route of infection that comes, you know-- could lead to the bacteria coming from the drain and finding its way onto the patients.

Q And this is in June of 2019?

A Yes.

Q And this is effectively in a general-- it is at Ward 6A which is a general ward?

A Yes.

Q At this point, it is the same as all the other wards apart from 4B in the main tower.

A Yes.

Q The same ventilation, the water systems?

A Yes.

Q Except it has point of use filters on the taps.

A Yes.

Q In fact, I can now see the thing I was going to take you to which is on the next page. There is a discussion here of various things which you are asked to do. Do you see that under, "Risk management and control measures current"?

A I do.

Q Yes. So, water samples need to be taken in Ward 6A with Pall filters in place and without-- What is a Pall filter?

A A Pall filter is a microbiological filter.

Q Is this the point of use filters we have heard about?

A Point of use filter, yeah.

Q It sounds like a sort of ovoid

thing.

A Yes. Pall is the manufacturer and this-- tradename.

Q It's a brand, okay.

A Yes.

Q Right. Okay, and then you are asked to go and speak to Pall, and look at evidence effectively that the filters prevent infiltration of atypical Mycobacterium.

A Yes.

Q And did you do that?

A I did.

Q What did you find out?

A Pall returned an email to me to confirm that the filter was capable of retaining atypical Mycobacterium.

Q Right, and then there is a suggestion they required to be changed. Were they being changed every 31 days?

A Yes. There was a programme in place to change them every 31 days.

Q And a discussion about applying them to theatres. Do you know if they were transferred to theatres?

A Yes, they were.

Q Now, the reason I ask you all these questions is partly in order to get answers to those particular points but also to ask what your role in an IMT is.

A I would say my role at IMTs was as a facilitator. So I would attend the IMTs, and any actions that were attributable to the Estates Department, I would take those actions, take responsibility for them and make sure that they were implemented. So I would use the Estates team and delegate any of the tasks to individual members to ensure that they were completed before the next IMT.

Q Had you heard of Mycobacterium chelonae before this particular IMT?

A I don't believe I had, no.

Q Were you aware of whether it had been anywhere else in the hospital?

A No.

Q In a IMT, who is the source of information about where the infections have been in the past?

A That would be either the consultant microbiologist or the Infection Control team.

Q Because the reason I ask that is that we have heard evidence that the testing results all go to Estates----

A Mm-hmm.

Q -- and then they get passed on to microbiologists, but you as a team would not, as it were, have a memory of what has previously been found?

A No.

Q You would leave that to the microbiologists?

A Yes, especially in the case of atypical Mycobacterium. That is not something that Estates would be

specifically looking for-----

Q What are the mycobacteria that you are looking at?

A Sorry, can----

Q What are the microorganisms that you are looking for?

A Generally, we would look for Legionella, TVCs, or E. coli and coliforms. Beyond that, it would be instructed by a microbiologist if there was anything-- any suspicion of another bacteria in the system.

Q Now, I want to turn to your answer to question 109 in your statement, which is on page, I think 171, I am hoping.

A Yes, it is.

Q It is quite a short answer. We asked you:

> "What do you understand about the management of water testing? What do you understand about decisions on when water testing should be undertaken?"

And you report, "Decisions on testing were always issued by the IMT."

A Yes.

Q Now, would there have been decisions made on other tests by other parts of the hospital?

A For other bacteria?

Q For other bacteria.

A Yes, that would-- for other bacteria, it would always have been instructed by the consultant microbiologist.

Q Yes, because that is what I wanted to check, that-- In a sense, I am wondering whether you might have misinterpreted our question because an IMT would instruct the things the IMT instructs, but there are going to be other tests instructed by other people, are they not?

A Yes. Outwith an IMT, there may be-- I'm trying to think of an example but there were commonly requests coming from either the Infection Control Department or consultant microbiologist to sample for a particular bacteria in specific locations.

Q And if, for example, the acute infection control committee or the board infection control committee would have wanted to start regular testing for a particular sort of bacteria, it might come from them?

A Yes.

Q And if the lead ICD wanted to do that, it might come from them?

A Yes.

Q By the time you had left, was there a standard list of out of specifications for water testing?

A I believe a list was being developed.

Q At the time you were leaving?

A Yes.

Q Right, well, I will not ask you more about that. Now, this is about data. The epidemiologists instructed by the Inquiry and the case notes review expert panel have made some relatively choice observations about the data quality, as they see it, about the location data for water testing results. I put that to Mr Watson yesterday, and he is quite firm that when they carry out their water testing, they complete a form recording exactly which ward, which room, which sink it is from.

A Yes.

Q What system does the Estates Department have for collecting water testing results, in terms of recording the location?

A I don't believe the Estates Department have a system. It's normally outsourced, and it's usually DMA who would carry that service out for us.

Q Is it possible that the consequence of that is that different outsourcers would use different systems of recording location?

A Yes.

THE CHAIR: Excuse me. Just so that I follow that simple point, is all the water sampling in the sense of collecting quantity of water to be sent on to a lab, is all that sampling done by outside contractors, or is some of it done by Estates?

A I believe all of it is done by outside contractors, mostly DMA.

Q Right. As far as you are concerned, all of it by outside contractors?

A Yes.

Q Thank you.

MR MACKINTOSH: Thank you. Now, I now turn to the topic of Cryptococcus and pigeons. I will not go to it, but in your questionnaire response, you explained you do not have expertise in ventilation. In fact, you just said that to me.

A Yes.

Q So, why do you think you were appointed to the Cryptococcus expert IMT sub-group, given that you do not know anything about ventilation?

A I was asked to attend, so I did that. Again, the Cryptococcus expert group were taking actions from that group. There were items that had to be investigated, and, again, I was a facilitator, so----

Q So, you were not there to contribute the decision about whether there is a particular source or----

A I wasn't being relied upon for my expertise, no.

Q Right. Well, I need to show you some pictures produced by Dr Inkster in February 2020. That is in bundle 12,

document 148, page 1236. Yes, we are in the right place. So it is page 1236. It is on the screen, yes. So this appears to be an email from Dr Inkster to Marion Bain, who would then have-- and copied into Christine Peters. Now, it is a long email. I am not going to read it today. I would like to scroll on, please, to the next email. It was a forwarding email. Over the page. Yes.

So, it appears to be forwarding some earlier emails. So there is email forwarded from John Hood, and then just at the bottom of the screen, we can see an email from Darryl Conner.

A Yes.

Q "Here are the pictures you requested", and then over the page we should have some pictures. Yes. I wondered if you have seen these pictures before?

A I have, yes.

Q Right. Where are they of?

A So, I believe these are within the plantroom on level 12.

Q Could it be plantroom 12A?

A I think it's 12D.

Q 12D, right, and what do they show?

A Pigeon droppings.

Q And the next one? I would jump out at this point if I were you. Yes, what does this show here?

A Yes. Again, pigeon droppings.

Q That is quite a lot of pigeon droppings, is it not?

A It is, yes.

Q I mean, you have had a pigeon party that has been going on there.

A Yes.

Q Next page. Same sort of thing. This looks like staining or tide marks?

A It is. I believe this was due to an external plantroom door being left open in level 12 and rain driving in.

Q So, you think it is rain driving in as well as pigeons?

A Yes, I think the water that's there-- Obviously, the door left open has allowed the pigeons to come in for an extended period of time, and also the rain has driven in and wet the floor.

Q Okay, next slide. How long do you think the pigeons were in there?

A It looks like a period-- a long period of time.

Q So days, weeks, months?

A It could be weeks, yes.

Q Right, next page. I think there are a couple more. Can you jump to the next page, please? Thank you. And this appears to be a dead pigeon.

A Yes.

Q And then there is one more after this. No, there is not. Let us go back to the dead pigeon. How would you characterise the nature of the issue with pigeons in the Queen Elizabeth

University Hospital/Royal Hospital for Children the time you were working there? What was the issue you were having with them?

A It was very challenging. There were a lot of pigeons around, there were a lot of roosting points, a lot of points of ingress, and they did tend to find their ways into the building, into internal spaces where they would roost and breed and nest.

Q So, what sort of internal spaces did they find their way into?

A Into roof spaces, into voids, behind cladding, all sorts of places.

Q They seemed to be able to get in there?

A Yes.

Q I want to just say, it is not that they are just flying around and dropping dead in children's playparks. They are actually all getting inside the building.

A Yes.

Q Right. So, I was proposing to show you-- Well, I will show you, actually, bundle 24, volume 2, document 50. So this is a report from GP Environmental. Page 115. Yes, this is a report-- So, Frank Maguire who requested it, did he work for you?

A Not directly for me, no. Frank worked for the facilities directorate.

Q Which is the cleaning side of the hospital?

A Yes, yes.

Q Right, and the date is the-- This is after you have been there. It is a date in February 2021.

A Yes.

Q And if we scroll down past the gulls, which is the first section, on to the next page-- I am going to just check my own references. (After a pause) I am in the wrong volume. Yes, if we go to volume 1, please, page 115. No, that is the same page. Yes, sorry, it is volume 2, at page 115. So this should be volume 2, I think, page 115. That might be volume 1. Sorry, volume 1, page 115. There we are. Exactly. Thank you. Yes. So, this is an email, "Works requested by Karen Connelly". Who is Karen Connelly?

A Karen Connelly was the site facilities manager.

Q And so, again, that is the facilities directorate?

A I believe I've got her title correct there. So, yes, she was a senior manager for facilities.

Q But not Estates?

A Not for Estates, no.

Q Just to be clear here, for our own benefit, the people who manage the site, keep it clean, operationally organise it, is facilities. The people who mend it and check it is working to standard is operations estates.

A Yes.

Q That is the sort of division?

A Yes.

Q Because it sometimes can get confusing if you do not know that. If we look at this result of this report from GP Environmental, who were GP Environmental?

A GP Environmental are a pest control contractor who were appointed to NHS Greater Glasgow and Clyde.

Q So, on 8 January, they reported to Ms Connelly:

> "Survey/recommendations. A very large population of feral pigeons are present spread across various locations of the entire site, the most obvious breeding site being the hollow beams and partially enclosed beams/ledges below the helipad."

And then below that, can we scroll down a bit:

> "The sheer level of pigeon numbers are now posing a significant health and safety issue in many locations of the site, including walkways, plantrooms, ledges around the hospital, external structure... and within site loading bays."

But you would include, "Behind cladding, access panels," and all the other locations you discussed?

A Yes.

Q Thank you. I do not think we need to see that anymore. My Lord, I have got one more question and I am going to suggest we have a short break to see if any of the CPs have questions.

THE CHAIR: All right.

MR MACKINTOSH: Now, you were at the hospital for four years?

A That's correct, yes.

Q During that period, are you satisfied that all information about biological risk posed to patients and staff was shared in a timely manner with Infection Control doctors?

A Sorry, I don't know if I understand the question.

Q I will-- During the time you were at the hospital, looking back at it from now, are you satisfied that all information that you and the Estates team had about biological risk that was posed to patients and staff was shared with Infection Control doctors in a timely manner?

A Yes, I believe it would have been. Yes.

Q Apart from the DMA Canyon report?

A Yes.

Q Because it does seem a little bit concerning that if the DMA Canyon report could have fallen through the

system and ended up you being asked questions about it a decade later, when it was not your responsibility as you were not the manager for the building it was about, that you might think the systems were not capable of catching it, and therefore they might have missed something else.

A It's possible, yes.

Q It is possible? My Lord, I have asked all the questions I need to ask Mr Purdon, but it may be my colleagues have questions they would like me to put.

THE CHAIR: Right. Mr Purdon, what I am going to do is break for about 10 minutes, just to check that there are no questions additional to the questions that Mr Mackintosh has asked you coming from other legal representatives. So I would ask you to return to the witness room and you will be called back in about 10 minutes.

A Okay, thank you.

(Short break)

THE CHAIR: Mr Purdon, Mr Mackintosh will have, I think, just a very few additional questions.

MR MACKINTOSH: So, the first thing to start with is a mild confession. I was showing you, when we were discussing the decant IMT minutes, for which you were not present. It is not really surprising. I was showing you minutes from September 2019, which you could not have been present at because it was some months after the IMT dealt with the decant, so my mistake.

On reflection, looking at the correct minutes from September 2018, you were not actually present at any of the IMTs around the time of the decant, were you? We can go through them, but I am looking at IMT 18 September. You are not there. The following one, on 19 September, you are not there. Does that ring a bell?

A I may have been on holiday at that point.

Q Right. So, it must have been that you heard your understanding of the decant from somebody else...

A Yes.

Q And we will ask some other people.

A Yes.

Q Now, I want to turn to the topic of pigeons. In your statement, at question 204, which is page 199, we asked you in a questionnaire, "What is your view as to pigeon contamination in the plantrooms?" And your answer then was:

"The accumulations of contamination were sporadic. My

observation was there was not widespread and significant contamination, and, most importantly, it did not appear that the problem was out of control."

Now, I have shown you the GP comment.

A Yes.

Q And I think you have accepted that there was a widespread issue of pigeons.

A Yes.

Q So how can you reconcile what you have just said to the Inquiry with this description in this?

A So, at the time, I was aware of the cryptococcus infections, which would have been late December 2018.

Q Yes.

A I had a walk around the plant rooms at that time. I believe I was also accompanied by Dr Teresa Inkster and Dr Christine Peters, and I took some photographs and there were very sporadic areas of droppings and, just to put that in context, the plantrooms are very, very large.

Q Indeed, I have been in them. They are very big.

A So I observed only a few droppings in specific areas, so----

Q So this answer is about December '18 in your eyes?

A Yes.

Q Whereas the point I was putting to you was that, over a long period of time, there was a significant issue with pigeon ingress----

A Yes.

Q -- in the hospital, and you would accept that?

A Yes.

Q And when pigeons get in, they cause mess?

A Yes, absolutely.

Q Right. We counted that, of the documents we have recovered from GP Environmental that relate to the-- their work on the site, so just GP Environmental, and they are in bundle 24, volume 1 and volume 2, there are 166 reports from GP Environmental in the period before you left the Clyde sector. And I am not going to go through them all, we can read them. Why were-- Why was the scale of the issue not, and the scale of the work required by pest control, reported to infection prevention control?

A I don't know. Couldn't answer that question.

Q Whose responsibility would it to have been reported?

A Anyone who had identified that pattern. Although a lot of the calls to GP Environmental to attend the site were made by help desk staff members, by facilities staff members, but also by anyone from Estates who had noticed

that, so the information wasn't joined up. So I don't think a pattern or the sort of scale of the problem had really come to anybody's attention.

Q Well, just to take an example, if we look through and see different names in the name of the person who has requested the works, would that be these different people that you are talking about?

A Yes.

Q And are you saying there would not have been a system for aggregating together the number of pest control call-outs?

A Yes. I don't think anybody put all of that information together.

Q Why not?

A I don't know.

Q I mean, you are, at this point, responsible for managing the building. You are paying the pest control people to come and clean your building. Would you not want to notice that there was a problem?

A Yes. With hindsight, yes, it should have been pulled together.

Q So this is another thing, along with the failure to notice the DMA Canyon reports, of a failure of a system?

A Yes.

Q So how do you think pest issues should be reported to Infection Control?

A There should be some sort of system or some sort of process in place that if it's noted that there's a pattern or if there's a potential risk to patients, then it should be highlighted.

Q I suppose this question is, you are there for a period of time, you have one-- two responsibilities while you are at the hospital over a period of time, and then you move on, and other people come in afterwards, and other people there at the time. So the fact that I am asking you this question does not mean I am only-- the only question I am asking you-- you are the only person being asked the question, but what does it say about the management of the hospital that these systems did not exist to spot risk assessments not being done to the number of pest controls-- and other issues we will come across? What does it say about the management of this hospital?

A To me, it says that there are clear gaps and there are improvements to be made.

Q Are you aware of whether they have been made?

A Sorry, could you say that again?

Q Are you aware of whether they have been made?

A I believe that improvements were being made at the time I had left.

Q And so in your hospital that you now work on, do you maintain the records of these things and report matters to your infection control team?

A Yes, I believe we do.

Q So when you say you "believe", do you do it?

A Yes.

Q Right. Thank you. I have got no further questions.

THE CHAIR: Really, just to give me context for what Mr Mackintosh has been talking about, Mr Mackintosh refers to 166 reports from GP Environmental. Now, I have not as yet looked at them, but what does a report relate to? I mean, does it mean that-- well, what-- just give me a bit of context. What does a GP Environmental report or why does GP Environmental produce a report?

A I believe that what's being referred to would be someone has noticed a pest issue on site, they have raised a call to GP Environmental and they have attended site and then given a report on their findings.

Q Right.

MR MACKINTOSH: My Lord, we can actually see one that might be relevant, which is bundle 24, volume 1, at page 96. So is this a report that you instructed in August 2017?

A I don't specifically remember that, but it's got my name on it, so I assume, yes, that-- yes.

Q And so here we have-- the issue was about pigeons nesting under the link bridge at neurology?

A Correct, yes.

Q And then they are reporting that the temporary letting has little or no effect and there is fouling and feral pigeons, and then there is a recommendation of action.

A Yes.

Q So, whilst, obviously, I cannot expect you to know as a surprise moment by showing you this now, in general, when these reports arrive from GP Environmental, is it the responsibility of the person who requests them to take them somewhere else, to action them or to obtain authority to action them?

A Yes. Absolutely, yes.

Q So, one would hope in this case that you said, "Yes, go back and clean it"?

A Yes.

Q But there would not be a system to escalate that, to record that and to notice there was a wider problem?

A No.

Q No. I hope that helps, my Lord.

THE CHAIR: Right. So such a report depends on someone who might be any member of staff-- any member of hospital staff?

A Yes.

Q Thinking there was something worth reporting to the pest control, pest control coming, looking at it and then recommendation and a price for action?

A It may well be that they actually come out, action it and then just create a report and submit that.

Q Right, yes.

A So it may already have been actioned. There may not have been a need for a quote. They may have just addressed it while they were on site, which was normally the case if it was a-- sort of a low level, maybe a fly infestation or silverfish, but any larger issues where there would be cost implications, they would have produced a report and a quote.

THE CHAIR: Thank you. Now, are legal representatives content that Mr Mackintosh has asked the questions that were highlighted? Thank you. Mr Purdon, you are now free to go, but, before you do go, thank you very much for your attendance today, but also for the work that you will have done in preparing the witness statement and I appreciate that will be a lot of work. So thank you for your attendance, but also for the preparation for the attendance, but you are now free to go.

THE WITNESS: Thank you.

MR MACKINTOSH: My Lord, the next witness is tomorrow and it is Mr Lambert, it will be taken by Craig Connal KC.

THE CHAIR: Right. Well, we shall adjourn until tomorrow at ten. Thank you.

(Session ends)

15:48