



SCOTTISH HOSPITALS INQUIRY

**Hearings Commencing
25 April 2023**

Day 7
Thursday, 4 May 2023
Paul Cooper

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15.50

THE CHAIR: Good afternoon, Mr Cooper. I suspect you have been waiting for longer than you had anticipated. I apologise for that to the extent that you have had to be kept waiting, but as you perhaps would anticipate, it is not always possible to predict precisely or even broadly how long a witness will take. Now, you are about to be asked questions by Mr McClelland, but I understand you are prepared to take the oath?

THE WITNESS: Yes, I am.

Mr Paul Cooper

Sworn

THE CHAIR: Thank you very much, Mr Cooper.

Questioned by Mr McClelland

MR MCCLELLAND: Good afternoon. Could I ask you please just to confirm your name?

A My name is Paul Cooper.

Q And have you supplied the Inquiry with a witness statement, Mr Cooper?

A I have, yes.

Q And do you have a copy of it sitting there in front of you?

A I do.

Q And for the benefit of those using the electronic resources, the reference is bundle 13 at page 312. Does that statement set out fully and truthfully your evidence on the matters it addresses?

A It does.

Q Is there anything in it that you think needs to be changed or corrected?

A No.

Q Well, the Inquiry will accept that statement as your evidence, but I have got a few more questions to put to you today. Just by way of introduction, you are an electrical engineer with Wallace Whittle. Is that correct?

A I am, yes.

Q Your statement says that you qualified in 2003 and you have been with Wallace Whittle since 2015?

A That's correct, albeit it was TÜV SÜD Wallace Whittle at that point.

Q Yes, thank you. That is something that we clarified with Mr McKechnie earlier. So, your experience and skills lie in electrical engineering rather than mechanical engineering. Is that correct?

A That's correct.

Q Just to be clear about it, to what extent is it within your

knowledge or expertise to comment on ventilation systems?

A I can speak very broadly and at very high level on ventilation systems as I sometimes have to engage with a client or a user on that, but I couldn't detail or design a ventilation system.

Q When it comes to the design of a ventilation system or its compliance with standards and so on, is that something on which you would defer to your mechanical engineering colleagues?

A It is, yes.

Q So, you explain in your statement that you joined the Sick Kids project in January 2015. That would be about a month or so before financial close?

A That was it, yes.

Q And that was to work on the electrical design?

A Yes, it was.

Q To what extent were the electrical designers and the mechanical designers-- to what extent did they work in different teams?

A When I joined TÜV SÜD, there was a dedicated Sick Kids team at that point and we were working together, so the mechanical engineers and electrical engineers were working together in the same space, but also

together as a unit on the project.

Q You refer in your statement to the Environmental Matrix. Was the Environmental Matrix relevant to your work on the electrical elements?

A It was, yes. The first half of the Environmental Matrix was mostly mechanical, but the second half related to electrical items such as lighting levels or standby generator grades.

Q In your statement you describe the Environmental Matrix as the client briefing document and also as the key document, and you say that you understood it to be necessary to apply all of the parameters within it. Was that your understanding of it?

A It was, yes.

Q Where did that understanding come from?

A When I first joined the company, I spent a little bit of time pulling together obviously and understanding the project, as part of that understanding and research, the BCRs were a big part of what I looked through. The BCRs within the definitions of the Environmental Matrix noted that it was the client's briefing document that was to be adhered to, and there was also a separate section within the BCRs that said this too-- or

a separate paragraph, sorry. Also, as part of the bids, there was a number of questions that had to be answered and one of those questions I think was C8.3, which referred to the Environmental Matrix as a mandatory requirement. I don't know if "mandatory" was the word, but a requirement to be adhered to.

Q You referred there to the tender and what was required by the Board during the tender process. Do you recall that those documents referred to the Environmental Matrix as a "draft"?

A I don't recall specifically noting that it was a draft Environmental Matrix, no.

Q And did you understand that there was scope for bidders to suggest changes to the matrix to any degree?

A No, I didn't understand that. At the point I joined the project, the Environmental Matrix had obviously been reviewed, discussed, but I didn't realise that we could go back and make changes to it. In fact, in my head, I felt it was discouraged to do that as it was the client's document.

Q Now, you say "in your head" you felt it was discouraged to do that. Was that something you just assumed for yourself, or was that

something that was discussed within the team?

A It wasn't discussed specifically; it was something assumed based on the BCRs and the way it had been presented as part of the BCRs.

Q To what extent had you, prior to the Sick Kids project, come across Environmental Matrices being used as briefing documents?

A Very little before this. The Environmental Matrix, if used at that point, was generally maybe towards the middle of a project and it was used to collate all the information together so that it could be reviewed easily when the designers were going through the design. But I think this might have been my first project it was given to me as a briefing document.

Q So, on those earlier projects when the matrices arose towards the middle of the project, how was the briefing carried out?

A The briefing either came through Authority Construction Requirements, Board's Construction Requirements or Employer's Requirements documents, and on occasion, if they were available, we'd be given room data sheets too, albeit that was quite rare at that stage.

Q On those previous projects, had you come across a

procuring authority setting out detailed mechanical and engineering parameters and giving that to the Project Company?

A Not detailed room by room. There was detailed parameters within the various documents I mentioned earlier, such as BCRs and ERs, but not on a room-by-room basis, no.

Q So can we take it from that then that the extent to which the Environmental Matrix on the Sick Kids project had specific parameters on a room-by-room basis, did that go beyond in terms of its detail what you would normally receive at the briefing stage?

A It probably did go beyond what we'd be expecting to see at that stage, albeit it would have to be received at some point, whether that be through room data sheets, but at that particular stage it was probably beyond what we would usually expect.

Q And if a document is provided to you as a designer as a briefing document, is there a normal practice about the extent to which you would check it for compliance with guidance, or is that something that depends on the contract?

A It would depend on the situation. With an Environmental

Matrix, we would certainly review it, perhaps not on a line-by-line basis at that point, given that the design wasn't being carried out, but there would certainly be a review of the document to make sure that there was no glaring errors within it.

Q I appreciate we are talking in sort of generalities and hypotheticals, but are you able to give an indication of the sort of thing you have in mind when you are referring to a "glaring error"?

A Speaking from the electrical side, for instance, if the scope of the standby generation hadn't been covered in areas that we would expect to see it covered, in critical areas such as a theatre, for instance, then that's the sort of thing that would jump out. Or perhaps the illumination levels noted might be much lower than we'd be expected, and that would jump out to me too.

Q You said a moment ago that you were not aware that the Environmental Matrix had been described in the Board's tender documents as a draft. If you had been aware of that, would that have altered your approach to it?

A No, I don't think it would. I think, in my mind, I would have probably looked at that as it was a

draft that had to be further populated at a later date with additional rooms and the like, but I wouldn't have taken that to mean some of the fundamental structure of the Environmental Matrix had to be changed.

Q So even if it had been described as a draft you would have-- I am not putting words in your mouth, but just I am trying to make sure I have understood what you have said. You would treat the given parameters in it as something that you had to comply with?

A Yes, I think I would.

Q The label of "draft" would not change your view of that?

A No.

Q You refer in your statement to Wallace Whittle submitting the Environmental Matrix as a "rebranded" Wallace Whittle document in October 2014. Now, I am conscious that that was a time before you were involved in the project. What is your knowledge of that based upon?

A The knowledge of that is based upon the fact that it was circulated, and it was available on the common data environment at that point.

Q What was your understanding of the significance of Wallace Whittle having issued the

Environmental Matrix as their own document?

A I didn't believe there was any significance in that. It seemed for reasons unknown that it had to be submitted as part of the bidding team's pack of information for financial close or full business case, and it seemed a technicality that it just had to be rebranded as a TÜV SÜD document and issued.

Q Did the fact that it was being reissued as a Wallace Whittle document indicate to you in any way that it had been taken on from that point as a contractor's proposal to meet the Board's requirements?

A It would have been submitted as part of the Project Co Proposals, so I suppose, yes, it was part of the PCPs at that time, but I didn't take it to mean that it was it was now in our gift to change things within that document.

Q Now, you say in your statement that you cannot comment on whether Wallace Whittle reviewed the ventilation parameters for compliance with SHTMs, but the Environmental Matrix includes certain electrical parameters. Were those electrical parameters checked for compliance with applicable guidance?

A They were checked by

me and my team, but not initially as part of that January/February time. They were checked when we went through the design of the building. So we designed it on a room-by-room basis at that point and the Environmental Matrix sat next to us and we reviewed it at that point.

Q Okay, now, I have been clear with other witnesses that I am not going to ask questions about that period after financial close, so I will not follow that up at this point. To what extent, if any, did you – and we are talking here about the period up to financial close – regard Wallace Whittle as having scope to suggest changes to the parameters in the Environmental Matrix?

A Whilst I didn't think it was within our gift just to unilaterally make changes, if we'd have saw something that we felt needed changed, I certainly thought we could have raised that via RFI or TQ to Multiplex at the time.

Q And just for the record, explain what you mean by RFI or TQ?

A So, request for information or a technical query. These are official documents that could be raised, questions, essentially. It would be done in a written format and request a response from the

Board via Multiplex.

Q In what circumstances would you envisage those being things that you might do in relation to parameters which the Board had set out in the document?

A Probably to do with the point I made earlier about glaring errors. I don't think I would make it for something that I thought was one interpretation or the other, but if I thought something was truly just wrong, I think that's the situation I'd have raised it.

Q And would you include within "wrong" something that stood out as inconsistent with relevant guidance?

A Yes, if something was inconsistent with the guidance I was aware of, yes, that would be wrong, in my opinion, at that time or would certainly require to be clarified.

Q Your statement refers to the Environmental Matrix as missing certain electrical information. How did that come to your attention?

A The main point I mentioned on that one was the categorisation and grouping of rooms, which is a requirement to carry out the electrical design. So, very early on when we started to carry out that design, we realised it was a bit more

information we needed and it wasn't included within the Environmental Matrix.

Q Is this something that came to your attention after financial close or was it before then?

A It would probably have been after financial close. Certainly there was no action taken before financial close.

Q Now, you also say in your statement that Environmental Matrices are becoming more commonly used on projects. Is that right?

A Very much so, yes.

Q Why do you think that is?

A I think it's because room data sheets, as we're maybe all a bit more used to, are quite a bulky specimen. There's three, four, five pages for each individual room. When you multiply that through the building, it's quite difficult. There's probably only one page that's relevant to building services, and the rest of it is not particularly relevant. So the Environmental Matrix combines all that into one document where you can look at it on a line-by-line nature, so I think it's an ease of use factor.

Q Would you say there are any downsides or risks to using them?

A The Environmental

Matrix is done manually so I suppose, as with anything, human error would potentially come into it. So, if someone put the wrong information into a cell, then that's certainly a risk on an Environmental Matrix.

Q Are you aware of any ways in which the prospect of human error can be managed or eradicated?

A A robust checking process is the only way that I could see it. I don't think there's any automated way that that could be alleviated within an Environmental Matrix.

Q Now, are you aware of Scottish Government directions to health boards requiring the use of the Activity Database as a briefing tool?

A I'm aware of that now, but I wasn't aware of that before financial close.

Q Do you have any views on Activity Databases as a briefing tool?

A I think the Activity Database that then forms the basis of the room data sheets is a good briefing tool if you can get it at the right time, but it's very, very unlikely that any board would be in a position to give you all the room data sheets for any given building at the time that we were looking for them. So I think it's a good

idea and concept, but I don't think it would be able to be pulled together in time for a design.

Q And is that simply because the Activity Database provides data on a room-by-room basis, so in order to use it you need to know first what rooms you are going to have?

A Well, there's a little bit of that, but there's also the fact that the room data sheets are primarily architecturally focused, and there's a lot of information that the architect will need to get from the client, the user group meetings, as they're called, and that can take multiple iterations and months of work to pull that together. So it's not something-- until you know the full structure of your building and how it's going to be used, it's not something you can pull together.

Q Do I take it from your answer there that, for any particular building, there is a process that has to be gone through, which would allow you to go from whatever the Activity Database specifies for a given room, turn it into a particular specification for the particular hospital?

A Yes, so, I should caveat I've never actually used the Activity Database myself. It's always architecturally done, but essentially it

gives out standard information that then does have to be populated or addressed by the architect and the client's team to make it bespoke to that hospital.

Q You also refer in your statement to-- I think you used the phrase an "attitude shift" towards SHTM guidance. What I have understood you to mean is that people now view it less as an advisory matter, which they might have done before, and more as a fundamental requirement. Could you just expand on what you mean by that, please?

A The SHTMs have always been good documents, but they have been advisory and there have been areas within them that have not always been as clear as they might be. So, people perhaps have been pragmatic in their view of them. Sometimes they have suggested derogations or changes to the SHTMs that a client would be willing to accept – in fact, a client might encourage on occasion. Now, with some of what's happened over the last few years, frankly, that risk of going away from the guidance is not something people are willing to take on as much anymore. So we're seeing them very much now taken as a *de facto*, not a guide, but certainly as something that should be adhered to.

Q In what you described there as the previous approach, would we understand the professionals, the designers, to be bringing to bear some professional expertise and judgment in the design? In other words, taking the guidance as guidance, but then using their own professional judgment to decide on the final design?

A There would be certainly a part of that. The engineers that would be involved in healthcare work are generally quite experienced and have carried out a lot of healthcare before, so they know what works and what doesn't. But also included in that would be the client's view on how they want their particular hospital to run, and sometimes that might require or might have done in the past require changes to the SHTM.

Q So, under the new approach that you have described, is there less of that professional judgment and exploration of options with the client in deference to what is specified in the guidance?

A There's less of it. It still happens. We still have derogations on any healthcare project that we'll work on, but it probably happens less than it ever did, yes.

Q Do you have a view, as a professional person, about whether

that is a good thing or a bad thing?

A I think it's a good thing if it encourages the SHTMs to adapt and improve, which I think they actually are doing. I think it's times and places, I suppose. At that time with the SHTMs that we had, that was probably the right thing to do. Now, as things change and SHTMs get updated and experience changes, I think the less pragmatic approach is probably the right way to go now.

Q Okay. Mr Cooper, those are the only questions I have got for you today, and I am sorry you have waited probably most of the day for such a short period of questioning. It is possible that some other people may have questions, so Lord Brodie may ask you to leave the room for a short while.

THE CHAIR: Yes, Mr Cooper, if we can test your patience just a little further, you will be taken back to the witness room, and in 10 minutes I will ask you to come back, or I will ask someone to ask you to come back and we will find out if there is any further questions.

THE WITNESS: Excellent.
Thank you.

THE CHAIR: Well, 10 minutes may not be necessary, but I will be at hand.

USHER: Please stand.

(Short break)

(Session ends)

16.30

MR MCCLELLAND: I am happy to report there are no further questions for Mr Cooper.

THE CHAIR: All right. Could Mr Cooper come in, please? (After a pause) Mr Cooper, there will be no further questions, but before you leave, as you are now free to do, can I thank you for waiting patiently, for giving evidence, but also for preparing to give evidence, which I appreciate is a significant task. So, thank you for all of these elements in your attendance, but you are now free to go and will be taken from the Inquiry.

THE WITNESS: Thank you.

THE CHAIR: Thank you. Now, I think the plan is to sit at half past nine tomorrow. Is that right? When perhaps Mr MacGregor will be in the chair. Is that right, or are you taking questions tomorrow?

MR MCCLELLAND: Both Mr MacGregor and I are taking questions tomorrow. For the time being, I cannot remember the precise sequence, but you will see us both.

THE CHAIR: Very well. Well, good afternoon to everyone and we will see each other, all being well, tomorrow.