Scottish Hospitals Inquiry

Witness Statement of

Paul Cooper

Professional background

1. I am Paul Cooper. My address for the purposes of this inquiry is c/o BTO Solicitors LLP, 48 St Vincent Street Glasgow G2 5HS. I am employed at Wallace Whittle as a director (whilst I am described as a "Director", I am not an officer of the company. The construction industry has an informal practice where individuals are often called "Directors" and "Associate Directors").

2. I have been qualified as an engineer since 2003, following my training through college and on the job experience. I initially started with a company called Buro Happold, an international firm of engineers, consultants, and advisers. I then moved from there to work with Harley Haddow, a company of civil, structural, mechanical, and electrical consulting engineers and then worked with Rybka Engineering. In 2015 I came to Wallace Whittle, where I have now worked for the last 8 years. My engineering experience and skills lie within electrical engineering, and I have been the electrical lead when working within healthcare projects.

3. When I began my career, it was quite a busy time for construction within the education sector with greater use of Private Finance Initiatives (PFI), so I started off in that, but then quickly moved onto healthcare work during my time at Harley Haddow. Since 2003 I have been mostly involved in healthcare, and now find that the majority of my time is spent working within healthcare settings. These have included the new build hospitals in Orkney and the RHCYP and DCN, in Edinburgh. I was also a designer for the various works at Golden Jubilee Hospital, Aberdeen Royal Infirmary and Gartnavel Hospital. Those were a mix of new builds and extensions and upgrades.

4. I joined the RHCYP/DCN project on 19 January 2015 at the OBC stage looking to move to FBC stage by February/March of that year. Brookfield Multiplex had

subcontracted Wallace Whittle to work on the mechanical and electrical (M&E) provision. We were part of the IHSL team and there were a number of project managers across the project. On the M&E side it was Ken Hall from Brookfield Multiplex, who we dealt with as he was the MEP liaison to the wider team and the client, NHS Lothian. We also worked alongside Liane Edwards, Brookfield Multiplex, who dealt more with the architectural side of the project. As we moved into RDD after financial close we started having more individual meetings, face-to-face with Mott MacDonald, who were the client's advisors, but we endeavoured to always do that in the presence of Multiplex staff.

5. At that time, the tender process was approaching financial close, and I had been brought in specifically for my healthcare experience. I was involved in work at the Royal Edinburgh campus at that time, and Wallace Whittle thought it would be a good fit for me to be involved in the electrical design. There was a limited team from Wallace Whittle on the project at that time working up until financial close, and the full design was going to start in February or March of that year. I was there to assist with the design going forward into financial close and onwards and we were split quite clearly into lines of mechanical and electrical, with the mechanical team dealing with the ventilation and the associated services. I was in a lot of the meetings where ventilation was discussed though as these meetings covered multiple issues. I was aware that there was discussion going through the process on ventilation, but I never contributed or made any decisions regarding ventilation as I do not have the expertise or the knowledge to contribute to it. Stewart McKechnie was the lead mechanical engineer at Wallace Whittle dealing with ventilation.

6. From the outset of joining the project, the Environmental Matrix (EM) became a key topic. It was well-used throughout the project and by the time I started it had been handed over to us as a client briefing document as part of the Invitation to Participate in Dialogue (ITPD) pack. My understanding is that it originated from NHSL as the ultimate client but any contact I had with the client came only via IHSL and Multiplex. My understanding through conversations at the time, and I have learned a little bit more since then, was that this project had been ongoing since 2010 and the EM had followed its way through. My assumption was this document was, to use my own expression, "the key document" for the project..

From the client, I took it to be pretty much, “Make sure you apply everything that is in that document” but no one expressly said that to me. I reviewed the relevant electrical documents with the electrical team and the Wallace Whittle mechanical team would have done the same in relation to their own areas.

7. Following our review, we were then asked to submit the Wallace Whittle/Tuv Sud rebranded EM back to the client, NHSL, which we did in October 2014. There then followed a commenting process, specifically from Mott MacDonald. We addressed the comments and those in the EM update at that time along with the Project Co Proposals (PCPs), which was contained in (**IHSL Comments on the Environmental Matrix Comments w/c 20 October 2014 – A35616759**).[1]

8. The Inquiry has asked me whether the air pressure values and air changes per hour were reviewed by Wallace Whittle for compliance with published guidance such as SHTM 03-01. I am unable to comment on this, as it is out with my area of expertise.

9. The Inquiry has asked me if I was aware that the EM would form part of the Reviewable Design Data (RDD). I was not aware at the time as we did go through a commenting process, and I was surprised to discover that a document that was presented to us as a briefing document would go through to RDD. Everything that went through the RDD process were our designs that went back to the board for their technical advisors’ comments. I do recall seeing the EM coming back with comments after financial close and was involved in addressing those comments but did not realise then that it would form part of the RDD.

10. I believe as we (Tuv Sud Wallace Whittle) moved forward with the project we ended up with about 12 or 13 versions of the EM, which I thought was unusual. I had been involved in projects prior to the RHCYP/DCN and the use of environmental matrices, albeit limited as it was not a common tool at that time in my experience. It would be handed over to you as a brief and the only time you would change it would be if something specific changed, such as a

[1] Bundle 4 – Environmental Matrix – A35616759 IHSL Comments on the Environmental Matrix Comments w/c 20 October 2014, Item 10, p.218

schedule of accommodation update, a room being added or guidance documents changing. It was very unusual to change the figures or environmental parameters within the EM as that went away from the ethos of a signed off briefing document. My experience was that Room Data Sheets (RDS) were commonly used as a briefing tool on more traditionally procured projects, but it was unlikely that they would be available at the early stages of a project. If the RDS were available at an early stage, they would likely be in draft for the purposes of a competitive tender process.

11. On other projects I have worked on I could be involved at the initial stages, what is referred to as RIBA Stage 1, which is at the project's inception. In an ideal world I would be expecting to be handed a client briefing pack at that point and have an EM from them, however often what happened was that the client was not quite there yet with that information and needed a bit of help. My experience was that you would have to get involved and answer any queries they had, such as cost implications from changing environmental parameters, however I would certainly expect to see a briefing document before Stage 2, RIBA Stage 2.

12. At Stage 2, the building services and M&E would become involved looking at how we are going to service a building, based on the client brief that we received at Stage 1. It would involve reviewing if the ceiling voids are big enough? Are the plant rooms big enough? Have we got enough capacity in the local areas to bring in electrical, water, etc.? As we move to RIBA Stage 3 this is when you start seeing the meat on the bones, where you start seeing drawings showing routing, coordination, all the corridor services would start being populated, and plant rooms would start to be built up. From RIBA Stage 4 onwards you get the final design. RIBA Stages 4 and 5 are when you are producing the final design that a contractor will take away and build from. Stages 6 and 7 are for the construction stage, and then into the post construction works at RIBA Stage 7.

13. If I was involved in the technical advisor team, I would be assisting the client to pull that briefing document together. This is something I have done recently on other projects as the client often struggles to pull these documents together. Before going forward though we would still ask the client's clinicians and

Estates team to scrutinise and make sure they were satisfied before signing off. The clinicians would usually be involved early on in any healthcare project and then the Estates and hard Facilities Management (FM) teams would come in at some point, looking at it from, "How can we manage this process? Once it is installed, can we upkeep it? What is the maintenance involved? What are the costs going to be for operating it?". I would insist on having clinicians and hard FM and Estates teams being involved in that process.

14. The use of the EM as a briefing document was becoming more common in projects. As more projects began to have bespoke needs that needed to be identified, a pragmatic approach sometimes had to be applied to the Scottish Health Technical Memorandums (SHTMs). The previous iteration of the SHTMs, which were the 2045-2055 numbering system, were advisory guidance, and that is what they said within them. As a result, individual health boards sometimes felt it necessary to derogate, by changing elements within those SHTMs. When the new suite of SHTMs guidance came along there was still a belief, at least in relation to the electrical SHTMs that I worked to, that as long as you were complying with the fundamental standards of the SHTM, or improving it, you could still make changes like that. The use of the EM was to nail down a client's requirements so that there was no ambiguity from any misinterpretation of an SHTM or similar guidance. However, things have now changed, and people are more onerous on their compliance with the SHTMs and now view it as less advisory and more of a fundamental requirement. In my view, this attitude shift has been brought about by the issues which form the focus of this Public Inquiry.

15. My involvement with the EM on the RHCYP/DCN project was on electrical issues, where there was missing information or more information needed to be added and we had to go through process of addressing that. This involved making up a separate document later, highlighting grouping and categorisation from SHTM 06-01 and the BS7671. This SHTM provides guidance for all works on the fixed wiring and integral electrical equipment used for electrical services within healthcare premises. It provides guidance on how to categorise a room from categories 1-5, and it was the seriousness of the electrical resilience you would put within an individual room. I discovered that this did not feature in the

EM, so we started a process of assisting the client to pull that together. This omission came as a surprise as it should have been within the EM in my opinion, however we dealt with that. The EM also needed to be updated to reflect the schedule of accommodation (SoA). It looked like it had been produced at an earlier point in time and had not been updated to incorporate updates to the SoA. As a result of this, I recall that we assisted in updating that EM very early on in the project to include every room within the hospital.

16. The Inquiry has asked me if I had any involvement with the scoring/rating for the project on the Building Research Establishment Environmental Assessment Method (BREEAM). Not specifically with regards to the energy point of view but, as part of the BREEAM scoring, there are a number of electrical items that need to be caught and evidenced. I was involved in collating some of the evidence for the BREEAM scoring later on in the project. There would have been regular BREEAM meetings throughout the project which I would have attended and given updates as to how we were getting on with our work on electrical-specific points.

17. The BREEAM scoring/rating is closely linked to the EM as minor changes to the environmental parameters within the EM can make big differences throughout the project. If a decision is made to change the lighting levels within a room, making them higher, then this would have an impact on energy targets. This would also apply to any increase on air change rates, which would have had a significant impact on energy, but also potentially could have made plant rooms unviable, because we would need more air-handling units. Any changes that somebody might have wanted within the EM would have had to have been discussed to see what impact it might have had on energy targets for the project.

18. The Inquiry has asked me if I was aware of the use of RDS or Activity Database sheets (ADB) on the project. Within my role I would not normally expect to come into contact with the ADB software as we tend to use the finished C-Sheets or RDS. These are essentially a 3D representation of each room. An architect would design from the information they have from an ADB sheet or from the EM. It would show the elevations of the walls, and they would go through a process with the clinical team, where they would review the

suitability of the services and conclude the C-Sheet or RDS. We would then take that sheet and work up the electrical and mechanical design. This C-sheet would stay with you throughout the whole of the job, and would be used for the final construction setting out.

19. I am aware the there is a Chief Executive Letter (CEL), which states RDS should be used for healthcare facilities in Scotland but often people did not have the RDS/ADB sheets at an early enough stage. As part of my involvement, I do not recall any internal discussion within Wallace Whittle regarding compliance with the guidance set out in CEL 19 (2010) (**A37215536 - CEL 2010 - Letter to Chief Executives, 'A Policy on Design Assurance for NHSScotland 2010 Revision' (2) dated 2 June 2010**)[2]. What I tended to see was that ADB sheets would sometimes come a little bit later in the project, as indeed they did on the RHCYP/DCN project. They came, essentially, to review the information on the project and make sure what had been asked for was actually covered in the RDS and that they reflected the EM. As long as I had something to tell me what they needed from an environmental aspect, such as the EM or an RDS, then I was satisfied.

20. I am not sure I was aware of the CEL at the design and briefing phase given that the production of RDS via ADB is primarily a task performed by other members of the design team i.e. the architects. I was provided with the Board's Construction Requirements (BCR) but the RDS section of the ITPD was empty, so no briefing RDS were received.

I believe that the facts stated in this witness statement are true. I understand that this statement may form part of the evidence before the Inquiry and be published on the Inquiry's website.

[2] Bundle 1 – Published Guidance – A37215536 - CEL 2010 - Letter to Chief Executives, 'A Policy on Design Assurance for NHSScotland 2010 Revision' (2) dated 2 June 2010, Item 6, p.553