

**Scottish Hospitals Inquiry**  
**Witness Statement of**  
**Stewart McKechnie**

**Personal Details and Professional Background**

1. My name is Stewart McKechnie. My address for the purposes of this Inquiry is c/o BTO Solicitors LLP, One Edinburgh Quay 133 Fountainbridge Edinburgh EH3 9QG.
2. I have been provided with a questionnaire by the Inquiry and have endeavoured to answer as fully as possible. Where appropriate I have suggested that questions be put to others more qualified to answer, or more engaged in the subject matter of those questions.
3. I have previously provided a witness statement under the reference number A44742175 in which I set out my background and I have simply repeated that here for ease of reference.
4. I am employed as a Principal Consultant at TÜV SÜD Limited. I previously had the title of “director,” which is an engineering title within TÜV SÜD Wallace Whittle (TSWW). The term “director,” just to make clear was used more as a seniority term, rather than inferring that I was a full director and registered in Companies House.
5. I have been qualified as an engineer now for over 50 years, working within mechanical and electrical engineering, however my specialism lies more towards the mechanical side. I had my first spell with Wallace Whittle a number of years ago before I then did a brief spell with another company called Donald Smith. I was invited to re-join Wallace Whittle, where I remained and progressed up the ladder to director. I am a member of both The Chartered Institute of Building Services Engineers (C.I.B.S.E.) and the

Institute of Healthcare Engineering and Estate Management and Energy (IHEEM); and registered as an Incorporated Engineer with the Council of Engineering (CEI).

6. I have worked on a vast range of different types of projects as Wallace Whittle cover quite a broad spectrum, from commercial buildings, offices, data centres, to more government work where I worked on schools and universities, also a number of shopping/retail centres such as Buchanan Galleries and Princes Square, Glasgow and St. James, Edinburgh. My work within healthcare settings has been varied as well, working on Orkney Hospital; Craig Dunain Hospital, Inverness; Aberdeen Royal; Queen Elizabeth University Hospital, Glasgow; Golden Jubilee Hospital, Clydebank, and Ailsa Hospital in Ayr. There will be others, but I cannot recollect them at this time. I have covered a wide range, not specialising in any one area, so gaining a wide range of experience across numerous construction sectors.

### **Involvement at QEUH/RHC**

7. TUV SUD were involved in the QEUH/RHC project at a few separate stages. Their first involvement was in April 2009, when Wallace Whittle (which TUV SUD later went on to acquire in July of 2011) assisted Currie & Brown in the compilation of the contract Employer's Requirements as Technical Advisors for the Mechanical and Electrical Engineering (M&E) aspects. This appointment came to an end in December 2009/January 2010 at the conclusion of the tender exercise.
8. Wallace Whittle were involved at this initial stage in various aspects such as attending the initial client consultation to agree and outline strategies, the preparation of engineering strategies, attendance at competitive dialogue meetings with the various tendering firms, providing technical input on bidder responses, attending technical presentations by the bidding firms and in

undertaking a technical review of bidders' proposals and assisting with scoring their responses.

9. Multiplex appointed Zisman Bowyer & Partners LLP ('ZBP') in December of 2009 to be amongst their professional team, pursuant to the Professional Services Contract dated 28 September 2010. ZBP were appointed as the Building Services Design Engineers and provided the design services for the QEUH and RHC. When construction commenced in 2011, ZBP worked on the project. However, on 28 January 2013, ZBP entered administration and ceased trading.
10. Multiplex thereafter appointed TUV SUD (trading, at that time, as "Wallace Whittle") to take over ZBP's role and complete their appointment pursuant to the Professional Services Contract dated 7 March 2013. This 'second round' of our involvement took place at Stage 3A (Final Design of the New Hospitals Building) and Stage 3A (Demolition and Final Landscaping) of the project. I am familiar with the design as submitted by ZBP, which had been completed, reviewed and accepted by the Client GGHB prior to the stage at which TUV SUD were appointed on this aspect of the project.
11. TUV SUD's involvement at this later stage was primarily directed at responding to any queries raised by the parties to the project in relation to the mechanical and electrical engineering design, which as noted above had already been completed and accepted by this stage. Construction of the hospital was also underway at this point. Our role at this time was restricted to clarifying any technical matters on the mechanical and electrical engineering design as accepted by NHS GCC. That was however by reference to design which had not been undertaken by the team at TUV SUD, but rather by the team at ZBP. I was not part of the ZBP team who designed the ventilation at the hospital.

12. Lastly, and separately, TUV SUD also had some involvement with the re-design of Wards 2A and 4B in early 2016 after the project was completed and the hospital had been opened. That involvement was again at the instruction of Multiplex. I understood at the time that the re-design was due to a change in the client brief.

**Currie & Brown, Contractors, NHS GGC Project Team**

13. Prior to being appointed as Technical Advisors by Currie & Brown on this project, Wallace Whittle had previously worked with them on various contracts. TUV SUD have continued to work with Currie & Brown on other projects since, which reflects our experience of working with them over a period of many years. Throughout our involvement at QEUH we reported directly to them, and they had day to day involvement with our work. We may have had some direct contact with NHS GGC Project Team but all of our work went through Currie & Brown, as they were our direct reporting line. I don't know how Currie & Brown became involved as this was before we had been engaged.
14. I do not recall having had any working relationships with the other contractors (Multiplex, IBI/Nightingales or Capita) prior to the QEUH/RCN. I do not recall having any concerns regarding the working relationships with the other contractors.
15. In terms of working with NHS GGC, I do not recall having any prior dealings with their project team. I do not recall the details of day-to-day dealings. From time to time the team had discussions with the NHS GGC project team on technical matters, but our dealings with them were primarily through Currie & Brown at the initial 'Wallace Whittle' stage up until December 2009/January 2010, or via Multiplex during our second stage involvement in the project i.e. from early 2013 onwards.

## **Employers Requirements ('ER')**

16. Our team prepared the Mechanical & Electrical Information section that can be found at Appendix M of the ER. We then passed this to Currie & Brown for this to be included in the final document.
17. We were not responsible for the information contained within the Clinical Output Specifications and I am unaware of who approved these for inclusion within the ER. I believe this question is better directed to either Currie & Brown or NHS GGC. Our team were involved in confirming what the relevant NHS Guidance was for the M&E aspects. We noted which SHTMs would be relevant for the project and to the best of my memory Greater Glasgow and Clyde Health Board ('GGCHB') had directed the use of SHTM 03-01 which was in draft form at this time **(Bundle 16, Document 5, Page 342)**.
18. While involved in the compilation of the ER, there was a BREEAM and Sustainability Consultant appointed by GGCHB. She had oversight of any energy and sustainability targets in relation to design. I don't recall anything regarding the removal of the maximum temperature variant and I would suggest that any question regarding this could be answered by the Consultant, my recollection is that her name was Susan Logan.
19. I don't recall any risk assessments being requested or undertaken from an engineering viewpoint in relation to the chilled beams. In any event, I would have expected these, if deemed necessary, to be carried out by NHS GGC. Active chilled beams were an approved solution under both the 2009 draft version **(Bundle 16, Document 5, Page 342)** and 2013 final version of SHTM 03-01 **(Scottish Health Technical Memorandum 03-01 Ventilation for healthcare premises Part A – Design and validation, February 2013, Page 27, Paras 2.38 -2.40)**, which were the relevant applicable SHTM guidance documents during the design stage of the project.

20. I was not involved and have no knowledge of the HAI-SCRIBE assessment regarding the proposed site development, design and planning, and new construction. I would expect this to be a function of the NHS GGC project team.

### **Ventilation Clarification and Agreement with the Board**

21. The Contractor's Tender Return Submission concludes that all ward areas be sealed and mechanically ventilated (**Bundle 18, Volume 1, Page 312**). The design and specification of the ventilation system as recorded in the M&E Clarification Log (**Bundle 16, Document 23, Pages 1662 – 1673**) was finalised after our involvement. I believe ZBP contributed to the Clarification Log based on their proposal and this explained the concepts they used in relation to their design. As noted above, this was approved after our involvement and I am unaware of who accepted the design. I suggest the question of BREEAM be redirected to the Sustainability Consultant.
22. I am not sure when I became aware of the ZBP Ventilation Strategy Paper, although I note the email exchange between me and Mark Baird (Currie & Brown) in Bundle 17 (**Bundle 17, Document 72, Page 2863**). It appears the paper was sent to me on 15 December 2009, which was around the time our role as Technical Advisors was coming to an end (December 2009). I note the email in Bundle 17 where it is suggested that "Stuart" at WW apparently supported it (**Bundle 17, Document 20, Page 2855**). I do not recall seeing it in advance of its submission. If I had been then it is likely I would have responded as I did by email to Mark Baird. Any approach to me would be by Steve Pardy. I also recall the paper, possibly amended, being provided directly from NHS GGC after we had been stood down, but we were advised by Currie & Brown not to respond.

23. The Ventilation Design was based on SHTM 2025 and the draft version of SHTM 03-01 which both provide guidance on the minimum fresh air required in correlation with the occupancy of the wards. This is referred to in the Clarification Log drafted by ZBP. We passed all of our comments regarding compliance with SHTM 03-01 to Currie & Brown. I am unaware if this was escalated to the NHS GGC Board or Project Team as this would have been dealt with by Currie & Brown.
24. In the email exchange with Mark Baird on 15 December 2009, Mark had asked me to review the ZBP Strategy (**Bundle 17, Document 72, Page 2863**) which was normal procedure. Any response provided by me would be restricted to engineering advice. In this exchange, I replied to say that the proposed solution appeared sensible and practical from an energy efficiency point of view. This was a factual statement that in my opinion this option was energy efficient. This was not stated with reference to BREEAM or any other sustainability and energy targets as this was not within my remit.
25. In this exchange, I also note that the solution does not strictly comply with the SHTM (**Bundle 16, Document 5, Page 342**). At the time, the ventilation tables within the draft SHTM 03-01 provided for 6A/C. Elsewhere, there is provision to utilise the occupancy method. The latter also appeared as an option in SHTM 2025, the predecessor of SHTM 03-01. Both were solutions included within the guidance and so this was not a departure from the guidance. At this stage, our involvement was limited and we simply recorded our understanding of the design. Any comments we had were sent to Currie & Brown as previously mentioned. I cannot comment on the risk assessments undertaken, I would have expected that to have been done to inform the detailed design process, after our involvement had ended and the approval of this document and whether it was escalated, as this would have been dealt with by Currie & Brown.

26. In Bundle 17 there are emails between me and Mark Baird referring to a meeting with the Board (**Bundle 17, Document 72, Pages 2861 – 2869**) I do not recall any meeting nor can I locate the minutes, I understand our Legal Representative has asked for these on at least two occasions and they have not yet been provided. In this meeting, I would not have expressed any opinion on the logic behind SHTM 03-01 as this is not within my scope as an engineer.
27. The email in the bundle at page 2869 refers to a proposed resolution (**Bundle 17, Document 72, Pages 2861 – 2869**), I do not recall anything in relation to this. Currie & Brown are asking for our technical input only; we were not in the position to provide resolutions. Any resolution and communication of that to NHS GGC was a matter for Currie & Brown. We reported only to Currie & Brown. Any risk assessments, whether in compliance with the standards in HAI Scribe or not are outwith our knowledge. I am unaware of the extent to which IPC were involved in considering the design of the new hospital.
28. In May 2016, we prepared a report which appears in Bundle 12 (**Bundle 12, Document 99, Page 796**). This report was requested by Multiplex after completion of the Hospital to confirm what the Ventilation Strategy was as built. This was a factual position to report on the system as it was installed. It was a commentary and did not provide an opinion on the ventilation solution. The report was provided to Multiplex. I do not know whether it was distributed further, or to whom.
29. Neither myself or anyone in my team were involved in the detailed design for Isolation Rooms and I suggest that Steve Pardy be asked about those.



## **Declaration**

30. 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 published on the Inquiry's website.

The witness was provided with the following Scottish Hospital Inquiry documents for reference when they completed their questionnaire statement.

## **Appendix A**

**A47069198 - Bundle 12 - Estates Communications (External Version)**

**A47851278 - Bundle 16 - Ventilation PPP (External Version)**

**A49342285 - Bundle 17 - Procurement History and Building Contract PPP  
(External Version)**

**A48235836 - Bundle 18 - Documents referred to in the expert report of Dr J.T.  
Walker - Volume 1 (of 2) - External Version**