SCOTTISH HOSPITALS INQUIRY

Bundle of documents for Oral hearings commencing from 13 May 2025 in relation to the Queen Elizabeth University Hospital and the Royal Hospital for Children, Glasgow

Witness Statements – Volume 3

Week Commencing 26 May 2025

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Scottish Hospitals Inquiry

Witness Statement of

Steve Pardy

Personal Details and Professional Background

1. My full name is Steven Pardy. My address for the purposes of this Inquiry is c/o BTO Solicitors LLP, One Edinburgh Quay, 133 Fountainbridge, Edinburgh, EH3 9QG.

2. This statement has been produced in response to a questionnaire from the Inquiry in relation to the Glasgow IV Inquiry hearings on the design, construction and commissioning process in respect of the Queen Elizabeth University Hospital (hereinafter referred to as “QEUH”) and Royal Hospital for Children (hereinafter referred to as “RHC”) construction projects.

3. I have sought to provide as full details as I am able to regarding any questions which I am in a position to answer. Where I consider that others may be better placed to answer any questions I have advised as such.

4. In terms of my professional background, I am a Chartered Engineer (CEng) and a Fellow of The Chartered Institution of Building Services Engineers (CIBSE), as well as The Institution of Mechanical Engineers (IMechE).

5. Prior to my retirement in December 2024, I had been a building services engineer approaching 50 years, having trained at the Polytechnic of Southbank and graduating with a Batchelor of Science degree in Environmental Engineering in 1981. Since the late 1980s I have specialised in more complex projects, mainly in the field of Healthcare and Scientific Laboratories of various types.

6. I joined Consulting Engineers, Zisman Bowyer & Partners (hereinafter referred to as “ZBP”) in 1994 and became a Partner in 2005. I have led many major projects in my field of specialism. Following the Administration of ZBP in January 2013 I joined TUV-SUD Wallace Whittle (hereinafter referred to as “TSWW”) who had acquired some of ZBP’s ongoing projects. They formed a team of around 15 former members of the original ZBP staff to continue with these projects in a local office in Kingston-upon-Thames. After a few months we were moved to Wallace Whittle’s London office in Victoria. I left Wallace Whittle in August 2014 to join BDP to lead the design on projects where I remained until my retirement. A full copy of my CV is appended to this statement.

7. My healthcare project background includes leading roles in the building services design for the following:
   - Dorset Hospital Phase 2 (1990 – 1994)
   - Barnet Hospital (1994 – 2002)
   - Princess Royal University Hospital at Farnborough (1998 – 2002)
   - Peterborough City Hospital (2005 – 2010)
   - Harefield & Brompton Hospitals various projects (2010 – 2019)
   - New South Glasgow Hospitals (2009 – 2014)
   - Great Ormond Street Hospital (2018 – 2019)
   - Epsom & St Helier Emergency Care Hospital (2020 to 2024)
   - St Georges University Hospital Renal Unit (2020 to 2024).

8. In most of the healthcare projects that I have been involved in the client, usually via their Estates Team, have had a significant influence on the direction of the engineering brief and the way that services have been configured. This has been through early engagement with key estates personnel discussing proposals and considering existing systems used elsewhere on the hospital estate.

9. For example, Great Ormond Street Estates Team were heavily involved in setting the engineering solutions for the new Children’s Cancer Centre building

with specific ways of delivering ventilation to the Bone Marrow Treatment rooms which were an enhancement to the HTM Guidance. The GOSH team did not always follow HTM guidance but did get agreement from NHS England before implementing alternative approaches.

10. Similarly, the Estates Team at St Georges made it clear from the beginning of the Renal project that there would be no deviation from the HTM guidance, although some derogations were agreed to deliver more practical, buildable solutions for the hospital. The Estates Team were, however, overruled by the Project Team on the aspect of lift type (motorless rather than traditional overhead traction) to reduce cost on the project. I cannot recall any significant discussion with the Estates Team on the QEUH during the design process.

11. My science background includes leading the building services design for:

- DSTL Porton Down (1996 – 2001)
- Li-Ka Shing Laboratories for Cancer Research UK (2000 – 2007)
- AstraZeneca Global Headquarters, Cambridge (2014 – 2018)
- Ray Dolby Centre, Cavendish Laboratories, University of Cambridge (2018 – 2024)

Laboratories, by their nature of experimentation, are normally bespoke in the services requirements and more often than not the brief is based on current methods used by the client with a willingness to incorporate future provision to address evolving science.

Involvement at QEUH/RHC

12. ZBP were appointed to undertake the design of the mechanical, electrical and public health services for the QEUH project, excluding below ground drainage and vertical transportation. I was the project partner and team lead.

13. Whilst involved in the project during the bid stage in 2009, ZBP were not formally appointed on the project by Multiplex until contract signature in 2010. ZBP reported to the design management team of Multiplex (hereinafter referred to as “MPX”), which remained the case throughout my involvement.

Employer’s Requirements

14. I was not involved in the preparation of the Employer Requirements (hereinafter referred to as “ERs”) **(Bundle 16, Document 13, Pages 1357 – 1591)** which had already been produced before ZBP commenced the design work.

15. I would expect that the Clinical Output Specifications (hereinafter referred to as the “COS”) were prepared by the NHS GGC Project Team and included in the ERs under their direction, though I cannot be certain of that as I was not involved in this part of the project. I believe that those at Currie and Brown (hereinafter referred to as “C & B”) or NHS GGC will be better placed to answer this question.

16. I would expect that the relevant NHS guidance was confirmed by the GGC Project Team and the technical advisers, however again I was not involved in that part of the project and so I am unable to make any definitive comment there. I would think that those at C & B or NHS GGC would be better placed to answer this question.

17. I recall that the carbon target of 80 kg/m2 was a key driver for the project to achieve and be, at the time, one of the most energy efficient hospitals in the UK. That was heavily emphasised during the bid stage, and we made presentations during that period on how this could be achieved. I understood that demonstrating how this target would be met carried some weight in the scoring of submissions.

18. To meet this target, close attention was given to the building thermal performance and active engineering systems specification and design. BREEAM was less of an issue to the building services design and many of the credits were not significantly related to our design. BREEAM itself did not therefore have a significant impact on the aspects of design ZBP had responsibility for.

19. As noted above, there was however great emphasis on meeting the 80 kg/m2 target throughout the bid stage. The Board had appointed an energy specialist, Susan Logan, who had set the target and was responsible for monitoring the design to ensure that this was demonstrated as being achieved. As lead for ZBP I kept this is in focus throughout so that the team were aware of the constraint in design decisions.

20. The building and systems were thermally modelled to assess the building fabric performance and a spreadsheet system formed to input the building's active engineering systems and impact of the CHP system operation. Due to the scale of the project the building services design was split into sequential sections and a review of the target was made at regular intervals with the Board's technical advisory team, C & B, so that corrective actions could be made to the design to maintain the target.

21. I do not recall the proposal to remove the maximum temperature variant, however, whilst the document **(Bundle 17, Document 26, Page 1063)** states that the maximum temperature variant has been removed, it then goes on to give limits on winter and summer temperature limits. This appears to be a contradiction. Through thermal modelling, and without seeing the detail of the analysis, I believe that the systems were designed within the prescribed limits.

22. Whilst I cannot recall the Potential Value Engineering Items schedule **(Bundle 43, Volume 1, Document 11, Page 35)**, it is however common practice to come up with ideas to save money, particularly if a project is running over budget. I cannot recall the reasons for preparing this schedule. These VE suggestions may not

have been accepted by the GGC Project Team and I do not know how many, if any, were implemented through agreement. With regard to item 6 relating to ward ventilation rates, again I am not able to advise whether this was agreed by the GGC Project Team and implemented without seeing the detailed calculations.

23. I have however noted from minutes of meetings included in Bundle 41 under minute 7.2 of the Monthly Progress Report from July 2011 that a *"Joint Value Engineering Register"* was being maintained which included reference to Hospital Wards Air Change Rate **(Bundle 41, Document 8, Page 321)**. A year later the Monthly Progress Report, again under section 7.2 mentions *"No major VE items implemented since last report"* **(Bundle 41, Document 11, Page 407)** which seems to be a repeated comment over the period.

24. Similarly, from the Adult and Children's Hospital Design Group meeting minutes (item 9.3) which were attended by various members of the ZBP team, including myself, item 9.3 of the minutes noted that *"ZBP request clarification on VE items. BM/NHS/C&B to review and agree which items they would like ZBP to pursue in the design development"* **(Bundle 40, Document 143, Page 548)**. This minute did repeat from March 2011 through to September 2011. It is suggested from the minutes of November 2011 that the VE items were resolved **(Bundle 40, Document 150, Page 641)**, however, this was a considerable period into the design programme so it is questionable how VE items would have been introduced part way through the design which would have caused significant disruption. I cannot recall such disruption occurring.

25. Clause 2.38 of SHTM 03-01 allows the use of chilled beams and gave the opportunity to provide ventilation and room temperature control through one device, particularly in a sealed building **(Bundle 16, Document 5, Page 371)**. Furthermore, Clause 2.4.3 of Appendix M&E 3 of the Employers Requirements describe the use of chilled beams for the project **(Bundle 16, Document 14, Page 1594)**. I would expect that the IPC and clinical team had been involved in the decision through the NHS GGC Project Team and their advisers, though I do not have any direct knowledge of this.

26. Having reviewed Bundle 40, I note from minutes of the February 2010 Technical Design Group, item 1.01 notes *"BCL asked who the infection control representative was. NHS advised the post was yet to be appointed"* **(Bundle 40, Document 119, Page 354)**. From the minutes of the March meeting *"NHS advised the post was now appointed. Jackie Stewart will be working with the Project Team"* **(Bundle 40, Document 119, Page 354)**. I do not personally recall any direct dealings with the infection control representative.

27. I am aware that following many years of chilled beams being installed and maintained in healthcare environments, the last version of HTM 03-01 (2021) **(Health Technical Memorandum 03-01: Specialised Ventilation for Healthcare Premises: Part A - Design and Validation, not bundled by the Inquiry)** no longer permits their use, which I understand is mainly due to maintenance requirements.

28. Clause 4.144 of SHTM 03-01 permits the use of thermal wheels **(Bundle 16, Document 5, Page 402)**. As can be seen at Clause 4.145 of the Guidance thermal wheels offer the highest energy recovery efficiency **(Bundle 16, Document 5, Page 403)** and with the key carbon emission target the best possible energy recovery was deemed necessary. To the best of my recollection thermal wheels were not used on critical care systems, such as operating theatres and intensive care areas. However, their use was considered appropriate elsewhere provided there was a surge sector which was specified **(Bundle 20, Document 75, Page 1583)**.

29. I do not know who provided the specification for environmental data relating to air change rates, pressure differentials and filter requirements, but would have thought that it would have been part of the ERs developed to design information in conjunction with the NHS GGC Project Team and MPX. I would imagine that NHS GGC would be better placed to answer this question.

30. I do not personally know who was responsible for HAI-SCRIBE assessment regarding the proposed site development, design and planning and new construction but would imagine that the relevant assessments were undertaken

by the GGC Project Team and C & B. They would be better placed to assist. I cannot recall any discussion or meetings relating to this assessment.

Design and Specifications

31. I cannot recall any of the intended uses of Ward 4B, Ward 4C, Renal, Level 5, Critical Care, Ward 2A & 2B or PICU at the QEUH. I am also unable to recall the extent of intended immune compromised or infectious patients but would have thought that they would be accommodated in the specific isolation rooms. I did not and do not however have the clinical expertise to comment on the appropriateness of various ward types for such patients. These aspects of the design would have presumably been subject to clinical and IPC input.

32. I noted from reviewing Bundle 41 that the Monthly Progress Report minutes from April 2010 under section 7.3 do record that *"BCL advised of omission of specialist ventilation from 4 (nr) bedrooms and 4 (nr) day rooms in Oncology Ward"* **(Bundle 41, Document 2, Page 96)**. This was confirmed in the minutes of July 2010 as being instructed under PMI 021 **(Bundle 41, Document 5, Page 210)**. I am not sure how relevant this is to the question, but the GGC Project Team may be able to clarify this further.

33. There were changes during the design period, although I cannot recall any specific ones. To address change ZBP and latterly TSWW prepared a design pack with relevant drawings and specification and submitted them to MPX. I did not have any involvement in the sign off process with the Board but would expect that MPX then passed the change pack onto the GGC Project Team for sign off. I do not know how the changes were signed off. I would imagine that NHS GGC or MPX are better placed to answer this question.

34. I have been asked about my awareness of the use of HEPA filters in Ward 2A. If the filters were a requirement then these would have been included in the design. I had left the project by the time of handover so have no knowledge of the handover status of the filters.

Currie and Brown, Contractors, NHS GGC Project Team

35. I would expect being part of the GGC Project Team advisers that C & B had a significant role in the analysis of competitive bids and the ultimate appointment of Brookfield and their team. As far as I am aware ZBP had no previous working relationship with the C&B team.

36. ZBP only reported through MPX as their employer and had limited day-to-day involvement with C&B generally at joint meetings with MPX. As I recall there was a positive relationship when ZBP were present with C&B. I understand that C&B had been appointed before the tender stage and our involvement.

37. ZBP also had a good professional working relationship with MPX and IBI Nightingale, having worked together on the Peterborough Hospitals PFI scheme, which was reaching its conclusion at the time of our initial involvement with the QEUH project. I do not recall Capita's role in the QEUH.

38. ZBP had no prior working relationship with NHS GCC prior to the tender process for the QEUH, but I do consider that we had a good working relationship with the NHS GGC Project Team. There were various discussions with them, largely during the 1-50 layout process and ad-hoc meetings thereafter. For our part there was no routine contact. I was not personally involved in all meetings with the Project Team and cannot remember most of the individuals' names. I do however recall Alan Seabourne as the lead of the team.

39. The only party that ZBP reported to on a day-to-day basis were the MPX design managers, having been appointed directly by them. I recall that Darren Pike was the M&E Design Manager.

Competitive Dialogue

40. ZBP prepared various technical proposal papers describing the engineering solutions to meeting the tender brief. We also contributed to the building layout

proposals developed by IBI. We attended the engagement meetings with NHS GGC during the competitive dialogue period and we were part of the tender presentation team. We also assisted in addressing any clarifications that arose from the NHS GGC Project Team after tender submission. As noted above, I led the ZPB team as project partner.

Ventilation Derogation

41. I have been asked about the ventilation design strategy as contained in the Contractor's Tender Return Submission (11 September 2009) **(Bundle 18, Document 8, Pages 205 – 626)**. The analysis at Pages 311 and 312 of this document looks at three forms of ventilation to the building, namely purely natural, mixed mode and fully mechanically ventilated systems **(Bundle 18, Document 8, Pages 311 – 312)**.

42. The conclusion was that the majority of clinical rooms would be sealed and fully mechanically ventilated **(Bundle 18, Document 8, Pages 311 – 312)**. This requirement was also driven by noise and down draught as a result of the roof mounted helipad as well as the odour generated by the sewage plant site adjacent to the hospital. Small non-clinical rooms looked to use purely natural ventilation and larger non-clinical rooms might employ a mixed mode approach. I cannot recall where the latter two strategies were employed in the hospital, if at all.

43. The ventilation design did not follow the recommended air-change rates given in SHTM 03-01 Appendix 1 **(Bundle 16, Document 5, Page 483)** based upon the discussion below on the use of chilled beams for environmental control and the required supply air rate for them to operate satisfactorily. The introduction to the SHTM on page 7 gives its purpose as giving advice and guidance **(Bundle 16, Document 5, Page 349)**, and whilst mandated in the ERs, the ERs were produced as a bespoke document by NHS GGC and alternative proposals were offered for consideration. As noted in the Clarification Log the departure from the recommended air-change rate in the SHTM was discussed between

parties to the project on the basis that rooms were generally single occupancy and cross contamination between patient areas was less likely, particularly with a slight negative pressure provided between the room and corridor **(Bundle 16, Document 23, Pages 1664 – 1665)**.

44. As noted in the Clarification Log, using chilled beams for the room for environmental temperature control as a low energy solution was a key aspect of the ERs **(Bundle 16, Document 23, Pages 1664 – 1665)**. The chilled beams required less primary fresh air to operate than the six air changes per hour noted in the SHTM.

45. The design was accepted by the GGC Project Team based on the strategy paper and discussion, and I would expect that they undertook their own review with the various technical advisers (including clinical and IPC advisers) though I had no involvement in that process so cannot advise whether that took place. As I have noted above, a low carbon solution and hence energy efficient solution was a key driver for the hospital, so I expect that that played a significant role in the acceptance of the design.

46. I was the primary author of the ZBP Ventilation Strategy Paper dated 15 December 2009 **(Bundle 16, Document 21, Pages 1657 – 1658)**, supported by the ZBP team with relevant calculation data and QA reviewing, both inhouse and with MPX. I was supportive of the proposals made within the document, in view of the fact that it was drafted by ZBP, including myself. I had no concerns regarding the proposals within the document.

47. The background work undertaken in the preparation of the Ventilation Strategy Paper involved thermal analysis and ventilation arrangement which was carried out to determine the proposed ventilation strategy. **(Bundle 18, Volume 1, Document 8, Pages 311 – 312)** summarise this process.

48. I was not personally involved in any escalation of the Ventilation Strategy Paper to the NHS GGC Board or its Project Team and so I cannot comment on that process. I have however reviewed the email document referred to at Page 2855

of Bundle 17, Document No. 70, which appears to show that this was raised and discussed with the NHS GGC Board by C & B as their advisers **(Bundle 17, Document 70, Page 2855)**. I would therefore imagine that they would be in a better position to assist with this question.

49. In terms of reliance to be placed on the Ventilation Strategy Paper, this document would have formed part of the agreed Contractor's Proposal between the GGC Project Board and MPX and following discussion between all interested parties to the decision the paper would have formed part of the information to be relied upon. I would expect the GGC Project Team would be better placed to answer the query as the ultimate decision makers on acceptance of the proposal.

50. My understanding is that SHTM 03-01 is primarily driven by Clause 1.4 of the SHTM **(Bundle 16, Document 5, Page 352)** and notes that ventilation is provided for the comfort of occupants of buildings but then notes that specialist ventilation, such as in operating theatres, laboratories and those noted in Clause 1.26 **(Bundle 16, Document 5, Page 356)**. Ventilation is also noted as controlling air movement to contain, control and reduce hazards from airborne contaminants, dust and harmful micro-organisms **(Bundle 16, Document 5, Page 356)**. Traditionally bed areas utilise natural ventilation through opening windows supplemented by mechanical ventilation. In this case, with wind pressure the movement of air is completely uncontrolled, whereas a sealed building has the ability to much better control air movement between patient spaces (Clause 1.23) **(Bundle 16, Document 5, Page 356)**. Further reference to Clause 2.3 of the SHTM refers to the use of natural ventilation for general wards provided via opening windows **(Bundle 16, Document 5, Page 366)**.

51. As noted elsewhere, great emphasis was placed on the energy efficiency and Carbon target for the hospital. Ventilation fans can consume a significant proportion of electrical energy and thus increase carbon emissions, therefore consideration to the sizing of ventilation systems was an important criteria. Furthermore, and as noted earlier, the maximum ventilation air demand for the active chilled beams was less than the six air changes given in SHTM 03-01. It

is possible that the wording *"not necessary"* was referring to the need for the ventilation rate needed to maintain environmental conditions given that chilled beams were being proposed to deal with heat gains and losses to the spaces.

52. The Ventilation Strategy Paper was prepared as an alternative approach based on environmental control using chilled beams, single occupancy bedrooms and reducing energy consumption. The proposals in the Ventilation Strategy were submitted to the GGC Project Team for agreement as part of the tender process and could therefore be considered as a derogation to the SHTM.

53. The GGC Project Team agreed to the proposal, which was implemented, and so I would expect that a view was taken that compliance with SHTM was not mandatory as described in the ERs, following discussion with their technical advisers. I was not however a part of that process and so I cannot offer any further comment on those discussions. I would also have expected NHS GGC to obtain IPC or clinical input on any patient safety issues (which were outside of my remit or expertise) prior to accepting the proposal but would suggest that NHS GGC or C & B would be better able to answer any questions in that regard.

54. ZBP had a professional working relationship with Wallace Whittle as would be expected between engineers appointed by the client and contractor. I cannot recall exact conversations with Wallace Whittle given the time that has passed, but I do remember that the strategy was discussed with the reasoning behind the proposal. I cannot recall whether the exact issue of compliance was raised but I would expect this was taken into account in the acceptance of the proposal.

55. The proposal in the Ventilation Strategy Paper **(Bundle 16, Document 21, Pages 1657 – 1658)** was considered to meet the minimum fresh air ventilation rates for single rooms with occupancy limited to the patient, visitors and attending clinical staff. The CIBSE codes give engineering guidance across a whole range of buildings. The Building Regulations and CIBSE codes generally offer minimum standards. Clauses 3.6 and 3.7 of SHTM 03-01 refer to the recommended minimum ventilation rate of 10 litres/second/person **(Bundle 16,**

Document 5, Page 375) which was considered in the Ventilation strategy Paper **(Bundle 16, Document 21, Pages 1657 – 1658)**. When designing buildings, whether a hospital or other type of building, the design criteria will consider the building's massing, fabric and use, amongst other factors. There are many sources of guidance available, and it is often necessary to consider these jointly to develop the most appropriate criteria for design.

56. The ventilation strategy for the isolation rooms followed the principles set down on HBN 04: Supplement 1 **(Bundle 16, Document 4, Pages 314 – 341)**.

57. I do not know how the proposal for isolation room ventilation strategy was approved by the Board as I was not party to these discussions. I would have expected that the proposal for the isolation rooms ventilation strategy was discussed between their Technical Advisers and relevant interested parties within the Project Team to come to acceptance.

58. I do not know if NHS GGC undertook any form of risk assessment regarding the ventilation strategy given that I was not part of the conversations within the GGC in accepting the proposal. I would imagine that those at NHS GGC and Currie & Brown would be better placed to answer this question.

Ward 4B and 4C

59. I do not know how Change Order Request in July 2013 by Jonathan Best **(Bundle 16, Document 29, Page 1699)** in respect of the transfer of the Bone Marrow Transplant (BMT) service to Ward 4B in the QEUH, and the move from Ward 4B to 4C of the haematology patients that were originally planned to accommodate Ward 4B was communicated to C & B. I recall that I was on extended sick leave in July/August 2013 recovering from major surgery so cannot recall the exact detail of this change, and as noted previously, other changes were issued by the designers to the contractor as a discrete design pack. My colleague at the time, Mark Harris may be able to further assist with this question.

60. I cannot recall the type of ceiling installed in Ward 4B. I would expect that the architect would know more regarding the change of ceiling type. I would expect solid (plastered) ceilings to achieve a sealed room, and it is likely that as engineers we would have brought this to the attention of the architect. I cannot recall whether C & B passed any comment on this.

61. I do not know who approved the reflected ceiling plans, but I would imagine that the architect would be in a better position to assist with this. I do not know whether the suspended ceilings were highlighted as non-compliant during the construction works phase.

62. I cannot recall the specific use for Ward 4C or whatever guidance was applicable to this area.

Ward 2A/ 2B RHC

63. To the best of my recollection, Wards 2A and 2B (Schiehallion unit) had a number of isolation rooms in the curve for treating patients. The design criteria for spaces would have been given in the ERs. The ZBP QA process would have the individual room design reviewed against the required design criteria. This was a specialist unique facility, but we were not invited to view the existing facilities and method of ventilation arrangement that the new unit was replacing, so had to rely on the content of the ERs.

64. I am not aware of any changes made to the design of this area during the construction stage. MPX would be better placed to comment on this. I am also unable to recall any direct involvement by IPC during the design period, although this may have been indirect via the NHS GGC Project Team, or C & B.

65. I cannot recall any concerns with the design as, to the best of my recollection, the design had followed the brief. The isolation rooms were designed in

accordance with HBN 04: Supplement 1 **(Bundle 16, Document 4, Pages 314 – 341)**.

Isolation Rooms

66. In terms of how the number and departmental location of isolation rooms was agreed, I believe that the number and departmental location of isolation rooms would have been identified as part of the Schedule of Accommodation prepared by the NHS GCC to meet their clinical needs, however, I cannot comment on that definitively as I was not involved in that process. I do not know who approved the numbers involved. I would imagine those involved in the project from NHS GGC would be better placed to answer this question.

67. ZBP were responsible for the design drawings and specification for the isolation rooms, but these were transformed into installation drawings by Mercury Engineering. I do not know who approved these from the NHS GGC Project Team. I would imagine that NHS GGC or MPX would be better placed to answer this question.

68. I do not recall having any concerns in relation to the isolation rooms or compliance with SHTM/HTM.

69. I have been asked about the entry in the RDS which reads as follows:

"WARNING NOTICE: This room is based on a theoretical design model; which has not been validated (see paragraph 1.8 of HBN 4 Supplement 1). Specialist advice should be sought on its design. The lamp repeat call from the bedroom is situated over the door outside the room."

I cannot recall any details of the RDS or this note in the RDS.

70. In terms of the specialist advice sought on isolation room design, the design would have followed the standard NHS guidance documents. I am not

personally aware of any further specialist advice having been sought, though I would imagine that NHS GGC would be able to answer this question.

71. I believe that the final agreed design for isolation rooms was part of the Reviewable Design Data and would have been signed off by NHS GGC and their advisers, however I am not personally aware of whether or not that took place, having no involvement in the approval process. I would imagine that NHS GGC or Currie and Brown would be in a better position to assist with this question.

72. In terms of why part of the main extract was placed in the patient bedroom and not totally from the ensuite as outlined in SHBN 04 Supplement 01 **(Bundle 16, Document 4, Pages 314 – 341)**, as a designer, I and other colleagues have adopted 'splitting' the extract between the ensuite and bedroom as taking all of the extract from the ensuite can lead to excessive air changes in the ensuite and can cause noise in transferring the whole air volume through a restricted opening in connecting door to the ensuite. The key criteria to maintain isolation is to maintain the pressure regime between the room/lobby/corridor.

Water and Taps

73. I am unable to comment on any concerns which may have arisen in relation to the water systems at the QEUH/RHC, in view of the fact that I do not possess the relevant expertise of that of a qualified public health engineer. I do believe however that the systems were designed in line with SHTM 04-01 **(Bundle 18, Documents 5, 6 and 7, Pages 102 – 164)** and other relevant water hygiene regulations. I did not have any concerns regarding the design of the systems.

74. In respect of the decision to use Horne taps, the architect was responsible for specifying the taps. As MEP engineers we would only have checked the tap was compatible with the pressure characteristics of the water systems. Whilst I am not a public health engineer, I recall from other projects that Horne taps

were becoming popular in use in healthcare buildings due to the benefits in maintenance.

75. I am further asked about whether the use of Horne Taps was dependent on thermal disinfection. Whilst I do not believe that I have the relevant expertise to comment on this given that I am not a qualified public health engineer, I believe this question may relate to exposure to high temperature hot water occasionally.

76. Unfortunately, I cannot comment any further than that as these matters are outside of my expertise, and because I have no knowledge as to whether this was included in the tap specification, which was prepared by the architect. I would imagine that the architect and manufacturer would be better placed to assist with this.

77. I am unable to answer whether the water system was filled prior to handover on 26 January 2015, in view of the fact that I had left the project by August 2014.

Any Further Matters

78. I do not have any further input on any issues raised, however I am more than happy to answer any further questions which may be of assistance to this Inquiry in so far as my role in the project was concerned.

Declaration

79. I believe that the facts stated in this witness statement are true to the best of my knowledge, information, and belief. I understand that this statement may form part of the evidence before the Inquiry and be published on the Inquiry's website.

The witness was provided access to the following Scottish Hospital Inquiry bundles/documents for reference when they completed their questionnaire/ statement.

Appendix A

A47851278 – Bundle 16 – Ventilation PPP

A49342285 – Bundle 17 – Procurement History and Building Contract PPP

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

A49618520 – Bundle 23 – Queen Elizabeth University Hospital and Royal Hospital for Children, Isolation Rooms PPP

A52281466 – Bundle 40 – Miscellaneous Minutes from Design and Construction Phase

A52319736 – Bundle 41 – Monthly Progress Reports

A32353809 – SHTM 03-01 Part A – Ventilation for healthcare premises – Design and Validation - Bundle 1 (A45195174), Document 15

A52449706 – Bundle 43, Volume 1 - Procurement, Contract, Design and Construction, Miscellaneous Documents

The witness verbally introduced or provided the following documents to the Scottish Hospital Inquiry for reference when they completed their questionnaire/statement.

Appendix B

A52742418 - Steve Pardy - CV

Steve Pardy - CV

Qualifications: BSc (Hons)

CEng FCIBSE FIMechE

February 2025

BIOGRAPHY

Steve joined BDP in 2014, and has over 40 years' experience as a mechanical engineer. Steve undertook an apprenticeship with Thorn Benham Ltd, obtaining an Honours Degree in environmental Engineering at Southbank Polytechnic. He joined DSSR Consulting Engineers in 1982 to broaden his design skills where he also commenced his knowledge in healthcare projects. After 12 years with DSSR, Steve joined Zisman Bowyer & Partners (Building Services Consultants specialising in labs & healthcare) in 1994 as Executive Engineer, progressing to Senior Associate before becoming a Partner in 2005. During this time Steve was responsible for leading some of the largest projects in the practice's 55 year history. Following the administration of ZBP, Steve was recruited as a Director with TUV SUD Wallace Whittle between February 2013 and August 2014.

Steve retired from practice with BDP in December 2024.

Steve took overall responsibility for the delivery of the mechanical and electrical services designs and for integrating the engineering specialisms of lighting, acoustics, sustainability and infrastructure into the process. Steve is committed to integrating innovative sustainable engineering solutions with the architecture and structure to produce passive low energy designs. Steve has, for much of his career, specialized in complex laboratory and healthcare projects. to produce passive low energy, low carbon designs.

SKILLS

- Healthcare sector expert
- Research/Science sector expert
- CDM Representative for Environmental Studio
- Hands on engineer

EXPERIENCE
BDP; 2014 - 2024

Healthcare and laboratories

Epsom and St Helier, Specialist Emergency Care Hospital, Sutton

2020-2024; [redacted]; Role – Engineering Director to RIBA Stages 2/3

The new hospital centralises emergency care from the Trust's two existing hospitals to provide a state of the art facility. The new building will accommodate the emergency department and support departments, women and children's centre, operating theatres and intensive care and wards providing over 500 beds.

The new development is part of the NHS New Hospitals Programme and is one of the leading Pathfinder schemes.

The hospital is being designed to meet the NHS agenda for Net Zero Carbon and uses heat pump technology for all heating and cooling energy, together with an extensive roof mounted photo-voltaic array. The scheme will also maximise the use of Modern Methods of Construction through standardisation, pre-fabrication and off-site manufacture

St George's Hospital, London, Renal Unit

2020-2024; [redacted]; Role – Engineering Director To RIBA Stage 4

A new unit rationalising Renal services across South West London. The new hospital accommodates Dialysis, Outpatients, Surgical and Medical Wards with links to the remainder of the St George's campus.

The designs are based on achieving a Net Zero Carbon building and has standalone energy generation from heat pumps rather than being connected to the campus' fossil fuelled steam system.

John Innes Centre, Next Generation Infrastructure, Norwich

2018-2020; [redacted]; Role – Engineering Director to RIBA Stage 2

A replacement of the John Innes Centre (JIC) and The Sainsbury Laboratory facilities at Norwich Research Park will transform the science accommodation into next generation facilities that encourages cross-disciplinary working. Our designs incorporate new research and office buildings along with state-of-the-art horticulture facilities and glasshouses, accommodating JIC and TSL's research, increasing industry and academic collaboration, and public outreach.

Cavendish III, University of Cambridge

2017-2024; [redacted]; Role – Engineering Director RIBA Stages 3 to 5

New state-of-the-art laboratory on the West Cambridge campus providing a purpose-built centre for world-leading research for the university's department of physics. The building provides a range of laboratories, offices, cleanrooms, workshops and multiple

lecture theatres, alongside an independent Shared Facilities Hub offering catering, collaborative teaching, and meeting, study and library spaces

Astra Zeneca Research Centre, Cambridge
2014-2019; [redacted]; Role – Design Lead to RIBA Stage 4
Executive architect, working with Herzog and de Meuron, and full engineering services, for the new office headquarters and laboratory complex located on the Cambridge Biomedical Campus for their highly-skilled workforce of approximately 2,000. The 55,000m2 facility has been designed to be readily adaptable for the changing needs of research science. The Research Building is supported by an energy centre incorporating a number of low energy solutions including an extensive ground source heat pump system and combined heat and power plant.

Bloomsbury Research Institute, UCL
2014; £35m; Role – Engineering Director to RIBA Stage 4
New 6,000 sqm building for the Bloomsbury Research Institute (BRI) including CL2 and CL3 laboratories. Scope includes feasibility study of existing services and their integration for the new facilities. Flexibility will be a key part of the design strategy. Future adaptability and expansion will be incorporated into the M&E services design to allow the building to continue to meet the occupants' requirements as they change.

Royal Brompton & Harefield NHS Foundation Trust
Continuing Steve's long relationship with the Trust included the following projects:

Royal Brompton Hospital – respiratory lab and consulting room relocation
2015-2016: [redacted]; Role – Engineering Director
Conversion and remodelling existing department areas to provide additional consulting rooms and staff accommodation

Royal Brompton Hospital – CFD Analysis into dispersal of fumigant from safety cabinets at roof level
Year 2015: [redacted]; Role – Engineering Director

Following Steve's prior involvement with the project before joining BDP, Steve was appointed to undertake a CFD study of dispersal from local fume discharges in relation to new plant to confirm that there would be no impact of theatre air quality. BDP appointed a specialist modelling company to carry out an analysis which formed part of a report confirm that there were no issues.

Harefield Hospital – Private Patients Wing
2017; [redacted]; Engineering Director for RIBA Stages 2 to 5

Refurbishment of existing office area into 18 single ensuite bedrooms, 4 bed HDU and support facilities to provide private patient accommodation to 5-star hotel standard. All rooms have air conditioning and lighting scheme has been developed to provide a high quality environment

Royal Brompton Hospital – Intensive Care Isolation Rooms
2016; [redacted]; Engineering Director for RIBA Stages 2 to 5
Refurbishment of an existing 4 bed ICU bay to provide two new lobbied isolation rooms. The design has following HBN04:Supp1 with separate ventilation plant for each room mounted at roof level and using a redundant lift shaft to create riser space.

UCL Queen Square House
2016 – 2017; [redacted]; Design Lead to RIBA Stage 2
New 16,000m^2 high rise laboratory building to provide laboratories and specialist imaging suite for research into Dementia and brain disease. The project also involve a significant enabling works project to reorganise the adjacent service yard serving two major hospitals

Great Ormond Street Hospital, Child Cancer Centre
2017-2019; [redacted]; Engineering Director to RIBA Stage 2
Multi-disciplinary design solution as part of a completion for the new outward facing development to give the image of GOSH.
The project is on a particularly restricted site and plant disposition in largely accommodated in a deep basement to give a free and airy roof line.

Zisman Bowyer & Partners / Tuv-Sud Wallace Whittle (1994 – 2014)

Healthcare

South Glasgow Hospital Campus
2009-2014; £840m; Role – Project Partner/Director
New 170,000m2 campus constructed on the site of the existing Southern General Hospital in Govan. The new hospital centralises acute services currently provided by three different hospitals. It comprises a 14-storey, 1,109-bed adult hospital and a five-storey 256-bed children's hospital.
The hospital was designed to have one of the lowest carbon footprints for UK hospitals.

Peterborough Hospital PFI Acute Hospital
2006-2010; £347m; Role – Project Partner
New clinical facilities for the £350m Peterborough Hospitals NHS Trust consisting of a new five-storey Acute Hospital, Mental Health Unit, and an Integrated Care Centre. Steve played an active role in the PFI process from PITN stage through to financial

close, providing overall continuity in the level of M&E design service through to completion and handover.
The acute hospital included a day treatment chemotherapy unit, an outpatients department and inpatient cancer care ward. Two Linac bunkers were provided as well as a lead lined Orthovoltage room and RDR CT Simulator.

Peterborough City Hospital Linac Extension
2014; £3m; Role – Project Director
Extension to the existing Radiotherapy department by the construction of two additional bunkers and fitting out of Linac machines. Following completion of the main acute hospital a further project was undertaken to provide two additional Linac bunkers and support facilities including a dedicated reception area. One additional Linac unit was fitted out with the second bunker being shell space for further future growth.

Other projects following the completion of the PFI scheme included new CT scanner unit and remodelling of outpatient areas.

Guys and St Thomas' Hospitals,
Cancer Day Unit
2012; £2.5m; Role – Project Partner
Project involved two Cancer Day Units (CDU), one located at St Thomas' Hospital and one on the 10th floor of the tower block at Guy's Hospital, were combined to form a single unit – the 10th floor Oncology offices provided the most appropriate space for this development.

Block 8 TWINS Project; £1.3m
2011; £1.3m; Role – Project Partner
Reinstatement of the 4th floor of Block 8 of St Thomas' Hospital in order to provide additional office facilities. Block 8 is a Grade II listed building and incorporates original features of the Florence Nightingale design.

Evelina Children's Hospital
2010; £NA; Role – Project Partner
Forensic investigation into the performance of the engineering services within the hospital to determine compliance with NHS standards.

Royal Brompton & Harefield NHS Foundation Trust
2010-2012; £10m; Role – Project Partner
Various projects undertaken at the Royal Brompton and Harefield Hospital sites. A selection of these projects is:

Harefield Hospital; site masterplan, MRI/CT building, extension to ITU, extension to ward block, refurbishment of redundant training into simulation labs, restaurant lighting,
Royal Brompton Hospital: theatres option study and appraisal. Hybrid operating theatre, upgrading two theatres, office expansion by creation of infill area at roof level, Gamma camera suite, refurbishment of private patients unit.

Bromley Hospitals PFI
1997-2002; £118m; Role – Senior Associate
New 500 bed Acute Hospital (Princess Royal University Hospital) and rationalization of Orpington Hospital. Since completion of the PFI in 2002, Steve had an ongoing relationship with the FM Provider undertaken a number of upgrade and refurbishment works within the live hospital including; IT cooling upgrade, UPS expansion, Private Patients Units, Maternity Consultant Lead Delivery Unit, A&E remodelling and new training centre.

Homerton University Hospital, Perinatal Unit
2006; £8m; Role – Project Partner
A phased redevelopment of the perinatal and maternity services unit including the construction of a three-storey structure housing the new delivery suite and the complete refurbishment of four wards comprising a 25-cot SCBU and a 22-cot NICU. The works were carried out around an operational department, and careful phasing was required to avoid disruption to the day-to-day activities of the existing maternity services.

Homerton University Hospital Framework
2008-2012; £6m; Role – Project Partner Project
Four year M&E framework covering a number of projects including ward refurbishments, new MRI, Endoscopy, X Ray, Physiotherapy Unit and boiler house feasibility study.

Kings College Hospital
2003-2012; £10m; Role – Project Partner
Golden Jubilee Wing (PFI building) refits and refurbishments. Projects included;
- A&E CT Scanner
- Christine Brown HDU Ward
- Bi-plane cardio-angiographic scanner
- PET scanner
- Expansion of maternity department
- Review of medical compressed air system

Barnet General Hospital redevelopment
1994-2001; £65m; Role – Senior Associate
New build 459-bed District General Hospital. A two-phased, part traditional, part PFI procurement process undertaking the services designers on both phases, as well as the original site master planning. Phase 1 included the Operating Department, ITU, A&E, Maternity, Radiology and wards. Phase 2 PFI (£40m) included the Coronary Care Unit, Renal Dialysis, Pharmacy, Pathology, Aseptic Suite, Ophthalmology, IT Centre and the remaining wards. The overall development also included a new Energy Centre including generators, boilers and CHP.

Whittington Hospital
2004; £5m; Role – Senior Associate
Fit out of the Imaging department as part of the PFI project for Asteral which is the UK's leading independent provider of export equipment to the NHS. As part of the PFI project at Whittington Hospital in London, Asteral was engaged by the Trust to provide the managed equipment service for the whole of the Diagnostic Imaging Department. This included:

- CT
- MRI
- Fluoroscopy
- Interventional Imaging, and
- X-ray rooms

The project was to provide the fit-out services design within the shell and core left as part of the PFI project.

Laboratories

Pirbright Institute, DP1 Project
2013-2014; £120m; Role – Project Director
New state-of-the-art research laboratory comprising a new 14,000 sq.m. main laboratory building and 862 sq.m. Energy Centre. Laboratory building comprises three wings of laboratories centred on a central hub to SAPO4 containment. The engineering services are highly resilient to maintain environmental conditions in the event of component failure.

Centre for Advanced Electronic and Photonics, University of Cambridge
2004 - 2006; £14m; Role – Project Partner
New 4,700m2 facility forming part of the University of Cambridge's Department of Engineering including laboratories and a large number of clean rooms. Appointed as Commissioning Manager for the EEDBA extension to the building in 2014

Li Ka Shing Centre, University of Cambridge Hutchison/Cancer Research UK
2000-2007; £40m; Role – Project Partner
Cancer research centre with ACDP Cat 2 and 3 laboratories. Following completion Steve was appointed to lead the fit out of specialist science areas leading up to occupation.

Poplar Block Laboratory Clare Hall, Cancer Research UK
2010; £15m; Role – Project Partner
Overseeing the M&E design of the laboratories including a BRU and support facilities.

DERA, Porton Down
1996-2000; £40m; Role – Senior Associate
Specialist laboratory complex including new CL2/3 biological and chemical research facilities totalling 16,000m2.

Ovagen Laboratories, Ireland
2011; £30m; Role – Project Partner
Unique research laboratories to develop a germ free egg production facility for vaccine manufacture in the pharmaceutical industry.

Responsible for the mechanical and electrical design of a large scale, germ free (GF) chicken egg production unit consisting of a unique bio-secure pressurised isolation poultry room with all facilities to enable 4,000 GF chicks, previously hatched in isolators, to be transferred, raised to full maturity and breed naturally to produce GF eggs in commercial quantities.

Barts & The London NHS Trust
Royal London Hospital Pathology and Pharmacy Building
1999-2001; £35m; Role – Senior Associate to RIBA Stage 2
Centralised the Pathology and Pharmacy services for the Royal London Hospital, St. Bartholomew's Hospital and the London Chest Hospital.

The 16,600 sq.m building houses the conflicting departmental requirements of Pathology, Pharmacy and Mortuary.

The project also includes a pharmacy manufacturing suite of approximately 2,500 sq m, 1,000 sq.m of which are occupied by an Aseptic Suite clean room environment, which is one of the largest NHS Pharmacy Production facilities. The Mortuary Department is approved for police forensic work and is able to operate to level 3 containment.

Cancer Research UK Long Term Accommodation, London EC1
2011; £6m; Role – Project Partner
Cat B fit out of 120,000 sq.ft. office building, known as the Angel Building, that brings together all non-scientific CR-UK staff in Greater London area under one roof.

The London Institute Cancer Research UK
2008 - 2010; £5m; Role – Project Partner
Following a comprehensive survey of the building the replacement of central heating and cooling plant was identified as a major operational risk to the institute during the period before the integration into the proposed Crick Institute.

Steve was responsible for replacement of the central boiler plant and chiller/cooling towers during the seasonal shutdowns.

Workplace

Lancaster Road, Wimbledon
2010; £1m; Role – Project Partner
The refurbishment of an existing building to create a new high specification trading office involving the design of the M&E and drainage services and acoustics and low carbon advice.

Residential

Home Park Road, Wimbledon
2011; £6m; Role – Project Partner
The design of new mechanical and electrical systems associated with the major refurbishment and extension of this residential property, applying on-site low and zero carbon technologies using a Ground Source Heat Pump system and Photovoltaic panels.

Education

Magdalen College Auditorium, Oxford
Year 2001; £5m; Senior Associate
150 seat auditorium designed to achieve extremely low noise levels.

Hatcham Temples Grove Primary School, Lewisham
Year 2008; £5.1m; Role – Project Partner
Replacement of all engineering services associated with the proposed extension of the school. Following a full condition survey, detailed designs were produced to provide full M&E design services for this BSF scheme.

The Attenborough Centre for Creative Arts
University of Sussex
Year 2013; £10m; Role – Project Director
Refurbishment of the centre to meet modern theatre standards and including a 350-seat main auditorium, dressing rooms, teaching studios and a front-of-house area made up of an entrance foyer, café and bar. It will host conferences, workshops and exhibitions, stage live music performances, dance, film and media events, and encourage learning through creative and experimental activities.

Based on the campus of the University of Sussex and housed in a Grade II listed building designed by Sir Basil Spence, the Gardner Arts Centre was opened in 1969 as the first university campus arts centre. It was closed for refurbishment in 2007.

Throughout the design, careful consideration was given to the integration of the service routes and containment so as not to damage the heritage elements of the listed building, in particular, the exposed decorative brickwork and concrete finishes. This required regular consultation with English Heritage.

Heritage

The National Gallery
Year 2013; £1m; Role – Project Director
Restoration of Gallery 33 including replacement of air conditioning system, lighting control systems and BMS monitoring for this Grade 1 listed building.

Further works included engineering services infrastructure in association with major roof replacement works for galleries 41 – 46.

St. Josephs, Mill Hill
Year 2008; £30m; Role – Project Partner
Refurbishment and conservation of a Grade II listed building, involving the conversion of an 11,000 square metre missionary training college into a luxury care home for the elderly. A core element of the development was the careful refurbishment of a 19th century chapel and the preservation of artwork and stained glass windows. The project featured the addition of a new glazed roof over an existing courtyard to create a graceful space which acts as a focal point for residents and visitors. A thermal performance study was undertaken to predict the range of summertime temperatures. Two new wings were also added to the existing building.
A study was undertaken to consider means of delivering 20% reduction in carbon emissions through renewable energy. The building was subsequently provided with a biomass boiler and a solar water heating system.

The Clothworkers Centre, The V&A Museum, London

Year 2012; £3m; Role – Project Partner

Four-year M&E framework agreement with the Victoria & Albert Museum (V&A). This project at Blythe House next to Olympia was to provide the M&E design for the new Textile and Fashion Study and Conservation Centre which brings one of the most important collections of fashion and textiles in the world together under one roof. This was an ideal opportunity to develop up-to-date and appropriate storage to enhance the safety and long-term care of the collection and its management.

National Archives, Kew

Year 2011; £1.3m; Role – Project Partner

Option appraisal relating to the replacement of part of the central cooling plant supplying Kew 1 (originally known as the Public Records Office). The option appraisal included outline designs reflecting 'sustainable' thinking, taking into account energy performance, environmental impact and whole life costings.

Miscellaneous

Search & Sea Rescue – Helicopters

Year 2012; £30m; Role – Project Partner

Supporting the Soteria consortium in its bid for the PFI contract to deliver the Search & Air Sea Rescue Service – Helicopters (SAR-H) across the UK (including the Falkland Islands). The deal to outsource the service in a 20-to-30 year contract was overseen by the Ministry of Defence. The contract included the construction and management of a number of new buildings. The commission involved providing M&E design advice, including outline proposals and specifications, for structures at the following seven locations:

- RAF Lossiemouth, RNAS Culdrose and Glasgow Airport – hangars providing space for maintenance of the helicopters along with accommodation for pilots and administration facilities.
- RAF Valley – flight training centre including a double height area for a helicopter simulator (provided by Thales), office accommodation, training/classrooms, briefing room, computer room and administration facilities.
- Stornoway Airfield – accommodation building/mess facilities for pilots.
- RAF Wattisham and RMB Chivenor – 'double width' fire stations.

The project also provided M&E services input into the DREAM assessments for the buildings.

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

Scottish Hospitals Inquiry Witness Statement of Mark Baird

I, Mark Baird, will say as follows:-

1. The facts and matters set out in this witness statement are within my own knowledge unless otherwise stated, and I believe them to be true to the best of my recollection.

2. This witness statement was prepared with the assistance of the solicitors for Currie & Brown UK Limited ("Currie & Brown"), Keoghs LLP, following Teams calls to discuss my response to the Glasgow IV Questionnaire issued by the Inquiry on 27 January 2025 and supplemental questions issued by the Inquiry on 1 April 2025, but it is in my own words and sets out my recollection and understanding.

3. I refer to the project to design and construct the QEUH/RHC as the "Project" and I refer to NHS Greater Glasgow & Clyde as the "Board" or "NHS GGC" throughout this witness statement.

4. I refer to the building contractor now known as Multiplex Construction Europe as "Multiplex" and not by its earlier names.

5. Where I refer to information supplied to me by other people, the source of the information is identified; facts and matters derived from other sources are true to the best of my knowledge and belief.

Personal Details, Professional Background and Experience

6. I am a Chartered Surveyor and Member of the Royal Institution of Chartered Surveyors (MRICS) (1997). I qualified from Glasgow Caledonian University with a BSC (Hons) in Quantity Surveying in 1995. I also graduated from Strathclyde University with a Masters Degree in Construction Law in 2000. A copy of my up to date CV is attached.

7. I joined Currie & Brown as a graduate in 1996 and remained with the company until I left at the end of June 2024. At the time I was involved in the Project, I was a Divisional Director with Currie & Brown and, as I explain in more detail below, my role focused on oversight of the production of the Employer's Requirements ("ERs") and establishing and agreeing procurement timeline and activities with the Board. My involvement with the Project ended in December 2010. I moved to the Middle East with Currie & Brown in 2018 and left the employment of Currie & Brown at the end of June 2024.

8. At the time of the Project, I had established a range of experience dealing with healthcare projects such as Crosshouse Major Renovations (Kilmarnock), Wishaw District General, Cumberland Infirmary, Easter Ross, Balivanich, Forth Valley Forensic Network (Gartnavel low secure, Stobhill medium secure and Carstairs special secure), A&E Upgrade (Southern General), Neurosurgery Block (Southern General), Midlothian Community Hospital, St Helens LIFT, Wigan LIFT, Dykebar Hospital, Hawkhead Hospital, Alder Hey Hospital, McKinnon House, Stobhill.

9. Currie & Brown was appointed by NHS GGC as Lead Consultant for the Project in 2008, initially to provide consultancy services to support with the design and build of the Project. Currie & Brown's role became more limited in 2010 (please see paragraphs 103 - 109 below).

10. During my involvement in the Project, I worked alongside the NHS GGC Project Team, working mostly with Alan Seabourne (Project Director) and Peter Moir (Head of Major/Capital Projects), together with Frances Wrath (Project Manager), Hugh McDermott (Project Manager), Heather Griffin (Project Manager – New Adult Hospital), Mhairi McLeod (Project Manager – New Children's Hospital), and Karen Connolly (Facilities Project Manager). From time to time I was also involved in meetings which included individuals from NHS GGC Estates (operational managers of live sites), for example there would be liaison with Brian Gillespie in Estates on various issues such as resilience in operating theatres and the practicalities of layouts. I had a good working relationship with the NHS GGC Project Team.

11. My line manager at Currie & Brown was Jim Hackett. I would discuss matters with David Hall on a day-to-day basis and also ensure that Douglas Ross of Currie & Brown was aware of our status and progress.

12. In very broad terms, my involvement in the Project spanned the following key stages:

Date	Phase of the Project
September 2008 to April 2009	Initial pre-design stage. Development of the tender documents including the ERs and Exemplar Design.
April 2009 to August 2009	Three bidders – Balfour Beatty, Multiplex and Laing O'Rourke – were issued with an Invitation to Participate in Competitive Dialogue (ITPCD) on or around 11 May 2009. Competitive Dialogue following issue of the ITPCD. Competitive Dialogue Meetings took place with each bidder between June and August 2009. This was a process for the bidders to engage with the Board to fully understand the Board's requirements and develop their bids.
Date	**Phase of the Project**

September 2009 to November 2009	Invitation to Submit Final Bids (ISFB) and Bid Evaluation. The three shortlisted bidders submitted their tenders on or around 11 September 2009. Each bid was then evaluated, with the process split into technical design, logistics and commercial workstreams, generating an overall scoring against the Most Economically Advantageous Tender ("MEAT") scoring methodology.
November 2009 to December 2009	Preferred Bidder Stage. The outcome of the Bid Evaluation process was that Multiplex was the preferred bidder. Thereafter, there was a period of contractual negotiations between Multiplex and the Board.
18 December 2009	The Contract was awarded to Multiplex to carry out the one-year design development stage.
December 2009 to December 2010	The Board and Multiplex entered into a year of design development and refinement. The Full Business Case (a detailed document justifying the investment in the Project) was submitted by the Board to the Scottish Government in October 2010. On 16 December 2010, the Board signed the authorisation to proceed to construction.

13. From September 2008 to December 2009, I worked on the Project largely full-time. From January 2010 until December 2010, I spent two days a week on the Project.

Initial Pre-design Stage - September 2008 to April 2009

14. Currie & Brown was appointed directly by NHS GGC in around September 2008 initially to provide consultancy services for the pre-construction phase of the Project (referred to as Stage 1A).

15. This followed a tender process where NHS GGC issued an Invitation to Tender for the "Agreement for the Appointment of a Lead Consultant and Technical Team" ("the Invitation to Tender") (**Bundle 17, Document No. 36, Page 1814**), together with a draft Memorandum of Understanding (see below). Currie & Brown responded with a tender submission on 6 August 2008 (**Bundle 17, Document No. 37, Page 1901**) which was accepted by NHS GGC.

16. I was heavily involved in preparing Currie & Brown's bid submission and presentation, although I did not present at the interview that took place with NHS GGC which was part of their selection process for the Lead Consultant role. I was involved in coordinating Currie & Brown's response and ensuring that the information was presented appropriately in the tender submission.

17. Further to what I have set out above, I have been asked in the supplemental questions issued by the Inquiry on 1 April 2025 to describe my "understanding of Currie & Brown's role as Lead Consultant/Employer's Agent/contract Administrator" and to set out my duties and responsibilities.

18. During the initial pre-design stage in 2008 to 2009 the intention was that Currie & Brown, using its own team of technical advisory sub-consultants (which I discuss further below at paragraph 21), would eventually take on the full role as Lead Consultant, Employer's Agent and Contract Administrator during the design and construction stage of the project once the Building Contract was awarded. However, as described at paragraph 9 above, Currie & Brown's role

and remit changed as the Project entered the Design and Construction stage, after the award of the Building Contract to Multiplex on 18 December 2009. As a result of this change Currie and Brown never took any of the formal roles of Lead Consultant, Employer's Agent, or Contract Administrator during the design and construction stage of the project.

19. Currie & Brown's role during the initial pre-design stage in 2008 to 2009 included establishing the workstreams to prepare the Project for the forthcoming procurement process, working jointly with the Board and their other advisors, such as their solicitors Shepherd and Wedderburn. Currie & Brown undertook quantity surveying and commercial activities as well as project managing its own team of technical advisory sub-consultants (which I discuss further below at paragraph 21).

20. As I set out below, my role during the initial pre-design stage in 2008 to 2009 primarily focused on co-ordinating the preparation of the Invitation to Participate in Competitive Dialogue (ITPCD), and the documents contained therein, such as the Employers' Requirements (ERs).

21. At the initial pre-design stage in 2008 to 2009, it was intended that Currie & Brown would act as the Lead Consultant and that, together with its technical team, it would undertake the full role of Employer's Agent and Contract Administrator during the project, although ultimately, Currie & Brown did not provide these services (for the reasons I explain below). Currie & Brown duly appointed a team of technical advisory sub-consultants (the "Technical Team"), consisting of the following:

    21.1 Buchan Associates who were Medical Planners ("Buchan");

    21.2 HLM Architects ("HLM") who were Architects for Adult Hospital Exemplar Design;

    21.3 BMJ Architects ("BMJ") who were Architects for Children's Hospital Exemplar Design;

21.4 Wallace Whittle who were M&E Engineers; and

21.5 URS (now AECOM) who were Civil & Structural Engineers.

Employer's Requirements

22. Currie & Brown's role in the initial pre-design phase of the Project (in September 2008 to April 2009) was to provide technical support to NHS GGC, including assisting with the preparation of the ERs, through its Technical Team. This role continued up to and including the competitive tender process for the award of the Building Contract, which commenced in April 2009.

23. The ERs were a document (including written information, tables, designs on 1:500 scale, room layouts) which set out NHS GGC's objectives, expectations, specifications and performance requirements for the Project.

24. Currie & Brown, together with its Technical Team, worked collaboratively with key NHS GGC stakeholders such as clinical staff and the Estates teams to develop the ERs.

25. I have been asked to explain the process by which the ERs were developed. At the outset Currie & Brown's Technical Team collaborated with the Board's Project Team to determine the format, structure and layout that the ER documents would take. Initial drafts were then prepared by the members of Currie & Brown's Technical Team with the appropriate discipline, for example, HLM prepared the architectural elements, Wallace Whittle prepared the mechanical and electrical engineering elements, URS prepared the geotechnical and structural elements. Development of these initial drafts was an iterative process with initial drafts being reviewed and revised, either at meetings which had been arranged to discuss the drafts, or via email exchanges, on an ongoing basis until a final draft was agreed by Currie & Brown's Technical Team together with the Board's Project Team. Clinical user groups established by the Board, and appropriate

external parties, such as the Local Authority, Police and Fire & Rescue services, were engaged and consulted as part of the review process.

26. My role was to coordinate the project management of the development of the ERs. Once the ERs were at the stage where the Project Team considered them to be finalised and ready for approval, they were approved at a senior level within the Board, although I was not involved in that process.

27. My role was focused on co-ordinating the preparation of the Invitation to Participate in Competitive Dialogue (ITPCD) of which the ERs were a significant component.

28. I have been asked to explain why the ERs were a significant component of the ITPCD. It is standard construction practice for the employer to set out their requirements clearly at the outset to ensure that the project meets their needs. The ERs identify (through written narrative and drawings) what the employer (in this case the Board) wishes to buy. This allows potential bidders to develop their bid and respond to the employer with their bid offer.

29. During the compilation of the ERs there was a range of discussions around how to capture and articulate information, as well as gathering of information about the Board's requirements. The Board's requirements included, for example, departmental adjacencies, travel times, lines of sight (bedrooms) and facilities management.

30. I have been asked to explain how the information was captured and articulated. The information was captured by Currie & Brown's Technical Team via consultation with the Board as the client. This was obtained through meetings with clinical user groups, discussions with NHS Estates team members and discussions with the Board's Project Team. For example, departmental adjacencies were determined with the Board's Project Team and the clinical user groups and informed the layout of the plans of the exemplar design which was included in the ERs, so the individuals who were selected by the Board to form

the clinical user groups were consulted and provided the input and direction to develop such requirements.

31. As for our Technical Team, HLM prepared an exemplar masterplan, various layouts, room data sheets and an equipment list. Buchan developed a Schedule of Accommodation. Wallace Whittle developed an outline mechanical and engineering design. URS developed an outline structural engineering strategy and civil engineering strategy.

32. I have been asked who was responsible for confirming what the relevant NHS Guidance was for the Project. HLM, BMJ, Wallace Whittle and URS each produced their list of guidance that they considered relevant to their particular discipline. For example, HLM produced a list of guidance for architecture and Wallace Whittle produced a list of guidance for Mechanical and Electrical Engineering. The lists were then reviewed by the Board's Project Team. Frances Wrath and Peter Moir led that review by the Board. I had no technical involvement in providing or reviewing the relevant NHS Guidance for the Project. My role was to assist with the collation of the final list of guidance for use in the ERs.

33. I have been asked whether SHTM 03.01 was included in the list of guidance. As this was many years ago and I do not have access to the documents, I am unable to confirm this, but I believe it to be the case as it was a reference point in the information that was referred to (see below).

Technical Review Group

34. The Technical Review Group was a work group the purpose of which was to address and resolve any ongoing technical issues in the preparation of the ERs. The Technical Review Group included David Hall and myself from Currie & Brown, Peter Moir (NHS GGC), Steve Allan (HLM), Graham Annandale (URS), John Bushfield (Wallace Whittle), Stewart McKechnie (Wallace Whittle) and Bob Menzies (BMJ).

35. My role in the Technical Review Group meetings was to coordinate the activity of the group and record the outcome of our meetings. I had no design advisory role because I was not qualified to provide design related technical advice and that was not my (nor Currie & Brown's) remit.

36. I have been asked to explain how I coordinated the activity of the group when the design of the Project was being considered. I performed a project management role to keep information and communications flowing between the group. I organised meetings, recorded assigned actions and followed up on actions to ensure that they were resolved. I was not the chair of this group and cannot recall whether the group had a formal chair or not, although the group did include a range of designers plus representation from the Board (Peter Moir).

37. Compliance with Scottish Health Technical Memoranda ("SHTMs") and Health Technical Memoranda ("HTMs") was a standing agenda item at the Technical Review Group meetings. This reflected the fact that SHTM/HTM compliance was an important feature to facilitate NHS GGC expressing the standards that they required. Frances Wrath of NHS GGC in particular had a lot of input into the completed list of guidelines to be included in the ERs as she had a lot of knowledge of the guidelines. I have been asked whether I was aware that Frances Wrath was a Quantity Surveyor and had no experience in advising on guidelines. I understood that Frances had either a Quantity Surveying or Building Surveying background. I also understood that Frances had worked for the NHS for many years, been involved in many projects for the NHS and had a working knowledge of the guidelines e.g. an awareness of whether particular guidelines were being reviewed by HFS (for updates) for example. Peter Moir was an architect by background. Frances and Peter were the conduit for guidelines and were able to access and talk to HFS regarding drafts and liaise with NHS colleagues with regard to guidelines.

38. I have been asked about the minutes of the meetings of the Technical Review Group on 30 January 2009 and 13 February 2009 (**Bundle 17, documents 42 and 43**). To the best of my recollection, I ran the meeting on 30 January 2009 and prepared the minutes. Agenda Item 2.0 was "clarification of importance and

standing of ERs" and detailed the discussion on this issue and agreed action. Agenda Item 4.0 was "Compliance (SHTMs/HTMs)" and detailed the discussion and two agreed Board actions on the issue. The minutes show that the importance and standing of the ERs was discussed. From my perspective, one of the purposes of the meeting on 30 January 2009 was to reinforce to everyone present that the ERs articulated the Board's requirements and were the minimum standards that were to be met by bidders/the contractor. The minutes also show that compliance with SHTMs/HTMs was discussed.

39. To the best of my recollection, I also prepared the minutes of the meeting on 13 February 2009. My drafting format for the meeting minutes was to add additional columns after the previous meeting's discussion and actions to allow for an update to be provided and the progression of agenda items to be tracked through to progression when reading the minutes from left to right.

40. Item 4.0 of the minutes record various actions for the Board, HLM and Wallace Whittle to undertake in terms of compiling the relevant SHTMs/HTMs for insertion into the ERs. Wallace Whittle was to "issue post-meeting the narrative on particular M&E related SHTM/HTMs (this was previously issued to the Board but not the design/TA team." The minutes show that the group were working progressively through issues and activities, and how actions were raised, monitored and closed out. The minutes of the meeting on 13 February 2009 record the 'Minute/Action' from the previous meeting on 30 January 2009, how this action point was progressed on 13 February 2009 and what needed to be done next and by whom.

Exemplar Design

41. The ERs and the Exemplar Design go hand in hand. An exemplar design is a reference design created during the early stages of a project to demonstrate feasibility, set design standards, and guide future development. The exemplar design is used in the ERs to give bidders a clear design intent while allowing flexibility for contractors. An exemplar design includes concept drawings and site layouts, design standards and specifications, space planning and functional

requirements, preliminary structural and M&E strategies and sustainability and energy efficiency considerations. The exemplar design forms part of the ERs, allowing bidders to develop their own solutions within certain stipulated parameters.

42. Wallace Whittle prepared the M&E information to be included in the ERs and the Exemplar Design for the Project. Stewart McKechnie and John Bushfield of Wallace Whittle were the leads and they represented Wallace Whittle at Project meetings.

43. The Exemplar Design was the basis for capturing the Board's requirements and assessing bid returns against and it was therefore a very important element of the tender process. The Exemplar Design served as the baseline to assess compliance of tenders, with the contractor's own final design superseding the Exemplar Design through the design development process.

Clinical Output Specifications

44. My understanding is that Clinical Output Specifications ("COSs") specify how spaces should function for patient care, staff workflows and infection control. My understanding is that the purpose of COSs is to ensure that the hospital facility supports the clinical needs and meets healthcare requirements.

45. The purpose of the ERs is to capture the building requirements whereas the COSs capture clinical requirements; the two are put together to provide the required solution.

46. The COSs were prepared by various department-specific stakeholder user groups, for example Accident & Emergency, Imaging, and Physiotherapy. A number of people were involved in providing the requirements for inclusion in the COSs. From a technical perspective, Iain Buchan of Buchan Associates was involved. Iain Buchan was a former nurse and healthcare planner. Architects from BMJ and HLM were also involved.

47. The Board put the stakeholder groups together. As I could not add to these meetings from a technical perspective, I did not attend any of the user groups and was instead provided with the finalised COSs from each group for inclusion in the relevant volume/section of the ITPCD in the ERs.

48. I recall there being a number of different user groups across both the Adult and Children's Hospitals. My understanding is that all of the different user groups signed the COSs off.

BREEAM, Sustainability and Energy Targets

49. I recall BREEAM being discussed during the Technical Review Group meetings. The Board engaged an advisor, Susan Logan, to provide support in relation to BREEAM and my understanding is that she discussed the process and solutions with the Board and the Technical Team as required.

50. I am aware that design and construction solutions can affect BREEAM ratings, but I am not aware of the specific impacts of the solutions in this particular Project as I was not directly involved in the design and I am not an engineer.

51. I do not recall any instances of sustainability and energy targets being the main factor in any decisions.

Chilled beams

52. I have been asked to describe my involvement and understanding, if any, in the decision to use chilled beams. I have been asked why this decision was taken by whom; and what risk assessments, if any, were taken prior to making this decision. I have also been asked what was the impact, if any, of using chilled beams. I was not involved in the technical assessment nor decision making in relation to the use of chilled beams. The Board engaged with the designers (certainly Wallace Whittle) in relation to this topic, as is recorded in the Design Summary Document (**Bundle 43 Volume 2 Document 21 page 308**) and the M&E Clarification Log (**Bundle 16, Document No. 23, Page 166**) (please see paragraphs 64 – 69 below).

Specification for Environmental Data relating to Air Change Rates, Pressure Differentials and Filter Requirements

53. I have been asked who provided the specification for environmental data relating to air change rates, pressure differentials and filter requirements. If this is a reference to a specification in the ERs, then this was provided by Wallace Whittle.

HAI-SCRIBE Assessment

54. HAI-SCRIBE stands for Healthcare Associated Infection System for Controlling Risk in the Built Environment. It is a risk management tool used to identify and mitigate infection risks in healthcare facilities.

55. I have been asked who was responsible for HAI-SCRIBE assessment. The Board had infection control staff involved in HAI related activity. There was an Infection Prevention and Control (IPC) representative in the Project Team. I recall that Annette Rankin and Jackie Stewart were part of the Project Team and they were both involved in team meetings and activity.

Sealed Building Design

56. I have been asked about the decision to select a sealed building design. This is not something I had any direct involvement in and I was not involved in the decision- making to select a sealed building design as this was not part of mine nor Currie & Brown's role/remit. My general understanding at the time was that a sealed building design had been selected as it gave more environmental control over the building.

57. I have been asked to explain why I was not involved in the decision to select a sealed design given my role as coordinator of the Technical Review Group. As explained above, my role was merely to assist with project management of the Technical Review Group. I was not chair of the group and the decisions made by the group were the Board's to make. I am not an engineer or designer and therefore am not qualified to comment on technical matters relating to the design of the building. The decision to select a sealed building was considered by the

relevant Technical Team members and the NHS team with experience in that matter.

Intended Use and Purpose of the Various Wards

58. I have been asked to describe the intended use and purpose of a number of wards in the QEUH/RHC. I know that critical care is for patients who require specialist care and certain nursing ratios etc. I know that PICU stands for Paediatric Intensive Care Unit, and as such is a unit where children are treated. However, I was not aware of the particular ward designations and numbering.

59. I have been asked what guidance was considered in the design of these wards and what processes were in place to ensure guidance compliance. My understanding is that a combination of the user groups and the Board and their advisors considered the relevant guidance associated with Wards, however this is not something that I was involved in producing. My role was to include the output of that process in the ERs and ITPCD.

Competitive Dialogue Process - April 2009 – August 2009

60. The Competitive Dialogue process took place between April 2009 and August 2009. Competitive Dialogue is a procurement procedure which enabled NHS GGC to discuss options with bidders before awarding the contract. The Competitive Dialogue process is sometimes referred to as “talk then tender”. The purpose is to ensure that there is more clarity in the tender process.

61. Currie & Brown were responsible for the Project Management of the Competitive Dialogue. Currie & Brown’s role included management of Competitive Dialogue meetings, co-ordinating responses to the bidders’ clarifications and queries and tender evaluation. It was a complex and significant tender process.

62. My role in the Competitive Dialogue stage was to support the process and facilitate discussions between the Board and the bidders by issuing the agendas and recording the actions arising.

63. I was responsible for producing and maintaining the M&E Clarification Log and the overall Clarification Log. The M&E Clarification Log was used to track and manage queries and tasks related to the mechanical and electrical systems. The Clarification Log was used to track and manage queries and issues that arose during the design and procurement phases. It was used to ensure that all questions, clarifications and responses were systematically documented to avoid any miscommunication or delays.

Removal of the Maximum Temperature Variant

64. The Inquiry’s Questionnaire refers to a revision issued by NHS GGC, ‘NSGACL Removal of Maximum Temperature Variant_iss1_rev” (**Bundle 17, Document No.26, Page 1063**), on 8 June 2009 (after the ITPCD was issued in May 2009 and before Multiplex’s Tender Return Submission in September 2009).

65. I have been asked to describe my involvement and understanding, if any, in the removal of the maximum temperature variant. I do not recall this issue

specifically, nor the reason(s) for such a revision, however any revision required consideration and approval by the Board in order to be issued.

66. I have been asked to explain why I was not involved in the decision to remove the maximum temperature variant given my role as coordinator of the Technical Review Group. As explained above, my role was to assist with project management of the Technical Review Group. I was not chair of the group and the decisions made by the group were the Board's. I am not an engineer or designer and therefore am not qualified to comment on technical matters relating to the design of the building. The decision to remove the maximum temperature variant was considered by the relevant Technical Team members and the NHS team with experience in that matter.

September 2009 to October 2009 – Bid Evaluation

67. Between September 2009 and October 2009, Currie & Brown was responsible for managing the bid evaluation, as summarised in the table at paragraph 12 above.

68. The evaluation of bid submissions had a commercial workstream (assessing the financial and contractual aspects of the bids) and a technical workstream (assessing the design and logistics), to arrive at a score for each bidder from each workstream. From the technical evaluation there were a range of areas where bids scored higher or lower than each other. Multiplex scored well in the technical and logistics as I recall. The overall outcome of the bid evaluation process was reached through a pre- determined formula for both technical and price scoring on a weighted basis.

69. I was not involved in the actual scoring of the bids. My role involved facilitating this process and ensuring that the individuals in the Project Team and designers who were doing the scoring had the information that they required.

November 2009 to December 2009 – Clarifications

70. Once Multiplex was chosen as preferred bidder, Currie & Brown assisted the Board in closing out any remaining clarifications, collating technical schedules for the contract and finalising the target price adjustments as necessary.

71. All of Currie & Brown's Technical Team were still engaged at this point.

72. During the clarification process, I was responsible for the M&E Clarification Log. It was my job to record all of the Board's (including therefore their design advisors) comments on Multiplex's design, Multiplex's comments thereon, the Board's further comments and the agreed position.

Ventilation Derogation

73. I have been asked about the ventilation design strategy contained in the Contractor's Tender Return Submission (11 September 2009) (**Bundle 18 Volume 1, Document 8, Page 205**). I was generally aware of the content of the Contractor's Tender Return Submissions, but because my role and remit was in relation to project management and since I am not an engineer and not qualified to opine on the technicalities of the ventilation design strategy, I did not consider this from a technical perspective.

74. I am not technically qualified to comment on whether the design and/or specification of the ventilation system as recorded in the Building Contract, in particular in the M&E Clarification Log (**Bundle 16, Document No. 23, Page 166**), was compliant with NHS Guidance. In my role as project manager, my responsibility was to obtain feedback and comments from the reviewers/assessors and include them in the log (in this example, from Wallace Whittle).

75. I have been referred to the Design Summary document (**Bundle 43 Volume 2 Document 21 page 308**) I prepared this document, which is entitled 'NSGH – Contract Preparation Design Summary – [area]'. It records the Board's feedback on Multiplex's bid submission and shows the Board's comments and Multiplex's response.

76. In the 'Board Comment' section at page 4, it states: *"Ward Air change to be 6AC/HR, currently shown as 2.5AC/HR which is not in compliance with SHTM 03-01."*

77. I have been asked to explain what action I took following receipt of the above Board comment given my role as coordinator of the Technical Review Group. As explained above, my role was merely to assist with project management of the Technical Review Group. I was not chair of the group and the decisions made by the group were the Board's to make. My remit was to gather all feedback into one place so that it could be considered and addressed by the people with the relevant technical expertise and the appropriate authority to act. The Board's comment was incorporated into the log which identified the various matters under review and consideration by the Board and the Technical Team.

78. The status of this comment is recorded as, "Not Agreed" and under the ''Brookfield Comment' section at page 4 it states:

> *"Brookfield proposal as outlined within the bid submission is to incorporate chilled beams as a low energy solution to control the environment which do not rely on large volumes of treated air or variable natural ventilation. All accommodation is single bedrooms and therefore the need for dilution of airborne microbiological contamination should be reduced (rooms could also be at slightly negative pressure to corridor). Providing 6 air changes is energy intensive and not necessary."*

79. The document shows that on 9 December 2009, John Bushfield of Wallace Whittle responded to this comment in the far right-hand column of the document follows: "*This derogation to the SHTM is not accepted. Any variation would require Board clinical infection control review*."

80. My role was to make sure that anything relating to the M&E works which was or was perceived to be non-compliant with the ERs was captured within the M&E Clarification Log so that it could be reviewed by the Board and closed out.

81. I have been asked to explain the steps I took to bring this derogation to the attention of the Board. Brookfield's comment was incorporated into the log, which was the agreed method of recording all issues which were under review and consideration by the Board and the Technical Team. By also incorporating the comment made by John Bushfield of Wallace Whittle into the M&E Clarification Log, the issue was being further brought to the Board's attention. This is standard practice and was understood by all participants.

82. I recorded the outcome of the issue in relation to ward air change rates in the M&E Clarification Log.

83. So far as I am aware, the first time that this point in respect of ventilation was brought to my attention was when it was first noted for inclusion in the M&E Clarification Log.

84. I have been asked to explain what steps I took to bring the derogation to the attention of the Board, other than including it in the M&E Clarification Log. The logs were the agreed way to capture and share information which required consideration which was relevant to particular specialisms. It is standard practice to identify potential derogations when reviewing a bid submission and log those in a table. That is what took place here with the comments being added to the agreed log and being shared with the Board and Technical Team. Using an agreed log to capture and track the progression of issues avoided multiple channels of communication of such issues, and the associated risk that issues can be missed (e.g. multiple emails and conversations which are not recorded) or not fully closed out and was therefore the key step.

85. I have been asked how (given John Bushfield's comments) did this derogation come to be accepted. My involvement was in relation to the logs and upkeep of those in line with activity and outcomes. I do not recall the specifics of how the ventilation derogation came to be accepted, but all items on the M&E Clarification Log were shared with the Board for their review and action.

86. I have been asked when I first became aware of the ZBP Ventilation Strategy Paper said to be dated on or around 15 December 2009 (**Bundle 17, Document No.71, Page 2859**).

87. To the best of my recollection, this would have been on 15 December 2009 when I received a copy by email from Ross Ballingall of Multiplex (timed at 07:39) (**Bundle 17, Document No.70, Page 2855**). Ross Ballingall stated:

> "*Attached latest update of M&E Log. There are a couple of bits that I still need to get an answer on but thought I would issue anyway. I have also attached a paper by ZBP on the Wards Ventilation Strategy. They have discussed this with Stuart at WW who seems to support it."*

88. Ross Ballingall will have sent his email to me in order that I could share the documents attached to it with the Board. His email contained the Multiplex update of the M&E Clarification Log as well as the ZBP Ventilation Strategy Paper. I would share documents with people on the NHS GGC side, to bring them to the Project Team's attention. I presume that Ross Ballingall sent the ZBP Ventilation Strategy Paper to me for me share it with the Board and its advisors as necessary to ensure it could be reviewed and discussed.

89. The ZBP Ventilation Strategy Paper would not have been provided to me to consider from a technical perspective or for approval by Currie & Brown (because we were not qualified to do so), but to pass on for consideration by the Project Team and relevant advisors (in this case Wallace Whittle).

90. By an email dated 15 December 2009 (timed at 08:16) (**Bundle 17, Document No. 70, Page 2855**), I forwarded a copy of the email from Ross Ballingall (including the attached ZBP Ventilation Strategy Paper) to Karen Connelly of NHS GGC. The ZBP Ventilation Strategy Paper required to be read by the Board and, to the best of my recollection, Karen (who was often in the office early in the morning) assisted me by printing copies (as I did not have printer access to the NHS printers) for the Board and its advisors to review. As far as I recall there were meetings and discussions between the Board and advisors on various

M&E matters around that time and I think it is likely that I asked Karen to print copies of the ZBP Ventilation Strategy Paper for a meeting or discussion taking place later on 15 December 2009, although I do not recall such a meeting/discussion specifically.

91. It was not part of my remit to review the content of the ZBP Ventilation Strategy Paper from a technical perspective. It is likely that, upon receipt of the email from Ross Ballingall, I opened the document to ensure it was the correct attachment and had a cursory read to establish what steps needed to be taken and by whom. My role was to facilitate discussions with the required people (NHS GGC and the advisory team). I noted that technical advice regarding the ZBP Ventilation Strategy Paper was needed from Wallace Whittle in order for the Project Team to make a decision.

92. Therefore, on 15 December 2009 at 08:41, I emailed Stewart McKechnie of Wallace Whittle (**Bundle 17, Document No. 72, Page 2863)** attaching the ZBP Ventilation Strategy Paper and asked, "*If you can review and advise re ventilation + option choice on flow pipes (pros +cons of options and recommendation)"*.

93. By an email dated 15 December 2009 (timed at 10:04) (**Bundle 17, Document No.72, Page 2863**) Stewart McKechnie of Wallace Whittle commented as follows:

> *"On ventilation we see this as a sensible, practical solution and Energy efficient although it doesn't strictly comply with the SHTM, only further proviso is that the room should be kept at a neutral or slightly negative pressure as per the SHTM which needs to be incorporated in extract system sizing.*
>
> *On the water pipe resilience, which applies to all services from the Energy Centre, either solution technically satisfies the ER's the 100% solution probably easier to physically separate, proposals for which need to be signed off although maybe this falls into Design Development."*

94. As compliance with Scottish Health Technical Memoranda ("SHTMs") and Health Technical Memoranda ("HTMs") was a standing agenda item at the Technical Review Group meetings, I have been asked how I responded to being informed that the ventilation design did not "strictly comply" with the SHTM. The Technical Review Group met during the preparation of the ERs which were finalised prior to the issue of the Invitation to Participate in Competitive Dialogue (ITPCD) by the Board in around May 2009. The email dated 15 December 2009 was several months later, during the review of the bid submissions. I responded to Stewart McKechnie's comment in relation to compliance by including it in the log (which was standard practice and the agreed process). The log was being reviewed jointly by the Board and Wallace Whittle, so the correct parties - i.e. those with the relevant technical expertise and the appropriate authority to act - were addressing the matter.

95. I was not involved in the consideration of the ZBP Ventilation Strategy Paper from a technical perspective and I do not know the details of why Stewart McKechnie considered this to be a "sensible, practical solution" or what review he had carried out in order to arrive at that view.

96. I emailed Stewart McKechnie of Wallace Whittle on 16 December 2009 (at 08:51) (**Bundle 17, Document No.72, Page 2861**). The subject heading of my email was 'NHGS – Today' and my email stated as follows:

"Stewart,

Things for today:

1) *Review of BE M+E statements on the log to date.*
2) *Air Changes – WW to take Board through this + specific query = do we think SHTM 03-01 is driven by temperature of HAI for stated nr of air changes;*
3) *Water Storage – take Board through this + maybe table of volumes etc all in the same 'currency' – I.e. Notes going around discuss in m3and litres per person and per bed – some comfort/clarity on this needed;*

4) Distribution Pipework – looks like 3 x 50per cent will be requested; Thanks,

Mark"

97. As I was facilitating the process and flow of information and queries between the Board and its advisors, my email raised with Stewart the points that had been highlighted to me by the Board for support/input by Wallace Whittle. Although I do not remember precisely who highlighted these points and when the "specific query" as to "do we think SHTM 03-01 is driven by temperature of HAI for stated nr of air changes" was a query that had been raised by the Board.

98. Although I do not recall it specifically, a meeting must have taken place on 16 December 2009 or if not then, subsequently, where Wallace Whittle gave information and advice to the Board as requested. I say that a meeting must have taken place because this matter regarding ventilation was subsequently progressed, concluded, and closed out on the M&E Clarification Log, and the only way this issue could have been progressed was for the Board (supported by Wallace Whittle) to engage, the matter to be discussed and advice to be given and a decision be made by the Board.

99. I assume that the meeting would have been attended by the Project Team and Wallace Whittle and if it formed part of a wider meeting then others may have been present, however I cannot recall this specific meeting. My role was to focus on the process and keep the process moving.

100. An email from me to Stewart McKechnie of Wallace Whittle dated 16 December 2009 (timed at 18.44) (**Bundle 17, Document No.73, Page 2869**) states as follows:

"Think we have a way forward on this one, need a calculation carried out however tomorrow morning to prove our resolution. This involves litres per second, air changes etc. and therefore requires your technical input and illustration. Can we have support for half hour/hour in the morning please."

101. By this stage, the Board thought that it had “a way forward” but needed a calculation from Wallace Whittle to decide whether its proposed resolution was appropriate.

102. I had no knowledge of the specific detail of the resolution which was proposed and I cannot recall who proposed it. My email to Stewart McKechnie was to relay the Board’s request for his further input and to ask him whether he could be available to assist the Board.

103. Any calculations that might have been carried out in respect of the resolution would be a specific engineering issue which would not have been within my remit or knowledge.

104. My email to Stewart McKechnie of 16 December 2009 (timed at 18.44) (**Bundle 17, Document No.73, Page 2869**) asked, “*Can we have support for half hour/hour in the morning please.*” This was a reference to the Board requiring support/input from Wallace Whittle on 17 December 2009 and I was facilitating that.

105. I do not remember any meeting with Stewart McKechnie or anyone else on 17 December 2009. I may not have even attended the meeting, since I was not involved in the technical consideration of the ventilation strategy.

106. I have been asked if I had concerns at this point. To the best of my recollection, at this stage I think that I would have felt comfortable that the engineers with the relevant skills and experience in such matters (Wallace Whittle) were involved and engaged with the Project Team in seeking to reach a solution.

107. I had no real understanding at the time of which wards and rooms the proposal was intended to be applied to, other than that I was aware that it was related to areas with 6 air changes per hour. I did not know which specific wards or areas that applied to by name/designation. From my point of view, this was an issue that people with the appropriate skills and expertise were actively looking at.

108. The M&E Clarification Log was prepared (by myself) and shared with the Board for any decisions that were required (from a process perspective) and that is what occurred with regard to the air changes.

109. I do not know if any risk assessments were carried out in respect of the change in the ventilation strategy following the ZBP Ventilation Strategy Paper dated 15 December 2009, but I would not have been directly involved in this in any event.

110. If IPC involvement was needed in respect of this resolution, that would have been an issue for the Board. It was the Board's responsibility to bring in the relevant IPC people from the NHS GGC team and any specialists as required.

111. As discussed above, I was responsible for recording the agreed ventilation derogation in the M&E Clarification Log (**Bundle 16, Document No. 23, Page 1664**). My involvement was to make sure that the ventilation derogation issue was raised, concluded and recorded. I have been asked whether I had any concerns regarding the ventilation derogation. I did not have any concerns, since the derogation was raised and went through review and consultation with the Board and was recorded in the M&E Clarification Log. I do not know the specifics of how the agreed ventilation derogation was agreed by the Board internally.

112. I have been asked whether the fact that I was informed that the system as designed was not compliant raised any concerns with me. As I have stated above, the matter was highlighted appropriately (in the log used for that very purpose) and was thereby raised with the parties best placed and experienced to review and resolve.

113. I have been asked whether the ventilation derogation noted in the M&E Clarification Log was recorded in the Full Business Case. I do not know whether it was recorded in the Full Business Case.

Other Derogations

114. I have been informed that the Inquiry is aware of several departures from SHTM 03- 01 Guidance in relation to air change rates, pressure differentials and filtration requirements. I have also been informed that the Inquiry is also aware

of a variation to the primary extract arrangement for PPVL isolation rooms from that set out in SHPN 04 Supplement 01.

115. I have been asked whether Currie & Brown were aware at the time of these non-compliances and if so, to confirm how Currie & Brown communicated these non-compliances to the NHS GGC Project Team. I have also been asked what obligations, if any, did Currie & Brown have to report matters further if no action was taken by the NHS GGC Project Team.

116. It was not within mine or Currie & Brown's expertise or remit to advise on any departures from SHTM or SHPN guidance since this was a technical matter. My role was to record any derogations in the logs, which were shared with the Board, as described above.

December 2009 – Contract awarded to Multiplex

117. The Contract was awarded to Multiplex on 18 December 2009.

118. I had been dealing with Multiplex regularly since the bidder stage. I had day-to-day dealings with Ross Ballingall, who was Multiplex's Project Director, and also Paul Serkis (Commercial Director). I also had dealings with Tim Bicknell who had authority to agree contracts on behalf of Multiplex.

January 2010 - December 2010: Project Management Support

119. Following the award of the Contract to Multiplex, Currie & Brown's remit reduced in terms of time and input. The Board took on the role of Project Manager under the NEC3 Contract and the role of Supervisor under NEC3 was procured separately, leading to Capita being appointed. I had no real understanding of the rationale for this decision at the time. From January 2010, Currie & Brown was retained to provide project management and costs management input.

120. I have been asked what was the impact of the decision and whether, in hindsight, I think it was the correct decision. The impact of the decision was that the Board became the Project Manager and Currie & Brown gave support. I do not think that this decision was detrimental in any way. Given the passage of time, I do

not specifically recall how I became aware of this decision and Currie & Brown's change in role. I was not directly involved in the discussions about this; Douglas Ross dealt with this on behalf of Currie & Brown.

121. Having previously worked on the Project full time, from this point I worked on the Project two days a week.

122. The change in Currie & Brown's role from January 2010 was reflected in a revised fee proposal issued by Peter Moir of NHS GGC to Douglas Ross of Currie & Brown by letter dated 18 January 2010 (**Bundle 17, Document No.74, Page 2870** – the "Revised Fee Agreement"), which stated as follows:

"I refer to recent dialogue regarding fees for the next stages of the project and write to confirm the agreed fee envelope for the key stages as follows.

New Laboratory Project

The fee allocation for a period of 116 weeks commencing Tuesday 5th January 2010 are as follows:

Activity	***Fee Allowance***	***Remarks***
Project Management support	*£196,820*	*Based on input of 2 days (15hrs) per week by Mark Baird.*
Cost Management	*£287,100*	*Based on input of 2 cost managers each for 2days (15hrs) per week.*
Agreed Budget Total	*£483,720*	

New Adult & Children's Hospitals

The fee allocation for a period of 57 weeks commencing Tuesday 5th January 2010 are as follows:

Activity	***Fee Allowance***	***Remarks***
Conclusion of Contract	*£76,389*	*This work is complete.*
Project Management support	*£141,702*	*Based on input of 3 days (22 hours) per week by David Hall.*
Cost Management	*£254,790*	*Based on input of 2 costs managers each for 2days (15hrs) per week. In addition Input from Director at 2 days per week (15hrs).*

Project Management Support

The inputs by David Hall and Mark Baird will be developed over the next 2-3 weeks based on the attached schedule for both Design Development (Schedule A) and construction works on the Laboratory Project (Schedule B).

Costs Management

Inputs by the Costs Managers will generally follow the requirements listed in the attached Schedule C.

Delegation of Duties

As the Board are undertaking the role of Project Manager, we require to delegate a range of duties which will most likely mirror the attached schedules A-C. I propose that David and Mark meet with myself and Alan Seabourne to agree duties for both Project Manager and Cost Advisor, please let me know if you wish to undertake this task…"

123. I have been asked whether a meeting between Peter Moir, Alan Seabourne, David Hall and myself to agree a finalised schedule of duties ever took place and if not, why not. I do not recall a meeting, however the Board's expected duties of me were two days a week of my time, which is what I provided from January 2010 onwards. I have been asked whether a finalised schedule of duties for Currie & Brown was prepared and signed and if not, why not, but I do not recall if a finalised schedule was prepared and signed or not.

124. The Revised Fee Agreement was later accepted by letter from Douglas Ross dated 26 February 2010 (**Bundle 17, Document No.39, Page 1903**).

125. From around this point, Currie & Brown stood down its Technical Team.

126. Multiplex engaged its own technical team. I am informed that the Inquiry's understanding is that, "*At some point during the design and construction phase, Multiplex decided to directly engage Wallace Whittle as part of its own technical team and so Wallace Whittle was involved in the hospital project in two separate capacities.*" I was not involved in Multiplex's appointment of Wallace Whittle and cannot comment on this.

127. As mentioned in paragraph 15 above, in 2008 NHS GGC had issued Currie & Brown with a Memorandum of Understanding. I dealt with the original Memorandum of Understanding in liaison with Peter Moir of NHS GGC and I recall that the process of finalising and signing the contract was delayed by normal contractual negotiations and discussions regarding liabilities etc.

128. The Memorandum of Understanding was the original appointment which was superseded by the exchange of letters between Peter Moir and Douglas Ross referred to above. I have been asked why Currie & Brown signed the Memorandum of Understanding given that it did not reflect the service variations agreed in 2010. The Memorandum of Understanding addressed the activity carried by Currie & Brown from 2008 until the Revised Fee Agreement and required to be agreed and signed. I was not involved in the Revised Fee Agreement as that was dealt with by Douglas Ross as far as I recall.

129. From January 2010 to the end of 2010, I was involved in providing project management support to the Board.

Room Data Sheets

130. Room Data Sheets ("RDS") are detailed documents which specify the requirements for each room or space within the hospital, to ensure that design and construction aligns with clinical needs, operational efficiency etc.

131. Room Data Sheets were developed at some point during the one-year design development phase between January and December 2010. The development of RDS was led by Nightingale architects. I had some interaction with the process during that phase, supporting information requests and the like by Nightingale to allow the RDS to be developed and prepared for reviews. I was not involved in the actual review and sign-off of RDS.

Full Business Case Approval

132. Full Business Case ("FBC") approval took place between November and December 2010. The Full Business Case is a Scottish Government requirement, and a 'gateway' to a project moving to the next phase (in this regard allowing the Instruction to Proceed to be issued to Multiplex). The FBC process was not unique to the Project, it is a Scottish Government requirement.

133. I was involved in supporting the Board in preparing for the FBC, gathering the relevant documents and other information required by the FBC. As far as I can recall, Heather Griffin, the Adult Hospital Project Manager, was leading on this and I provided some assistance as noted above. The Board achieved Full Business Case approval from the Scottish Government in December 2010 and issued Multiplex with an Instruction to Proceed, authorising them to commence construction of the Hospitals under Stages 2 and 3A of the Contract. All clarification logs were concluded at that juncture, the contract price agreed, and the contract finalised. As such, there was no further input required from me and I left the Project at that point.

Other Matters

134. The Inquiry's Questionnaire poses a number of questions (questions 28, 31, 32, and 39 - 56) relating to matters which post-date my involvement in the Project (which was between September 2008 and December 2010) and which I am therefore unable to answer.

135. There are a number of questions where it is not entirely clear to me whether they concern the period September 2008 to December 2010 and I address these questions below.

136. Question 29 asks me to describe how the technical requirements (air change rates, pressure differentials and filter requirements) for the rooms were managed and approved, including my role and involvement. There were technical matters which were addressed through the logs during the one-year design development process (as noted above). If aspects of this question also relate to approval of the technical requirements by Capita after my involvement in the Project had ended, I am not able to comment in that regard. If I have misunderstood what is being asked, however, I would of course be happy to reconsider this question.

137. Question 30 appears to be primarily concerned with commissioning, which postdates my involvement in the Project. However, question 30(a) asks me to describe the intended use, purpose and specification of a number of wards (Ward 4B-QEUH; Ward 4C-QEUH: Level 5-QEUH: Critical Care-QEUH
Ward 2A & 2B – RHC; PICU RHC – RHC; all Isolation rooms). I have described my understanding at paragraph 48 above. Question 30(b) asks what were the specifications of these wards. As mentioned at paragraph 48, I was not aware of the particular ward designations and numbering. Question 30(c) asks what guidance was considered in the design of these wards and what processes were in place to ensure guidance compliance. The guidance which was required to be considered by Multiplex was set out in the ERs. In terms of compliance with that guidance, during the period September 2008 to December 2010, any actual or perceived non-compliances were recorded in the logs, as described above. If

this question relates to Capita's appointment as NEC3 Supervisor, then this post-dates my involvement in the Project.

138. I am similarly unable to answer question 30(d), which asks, "Were there any changes to the design during the design and build, if so, please describe any such changes, describe the impact, if any, on guidance compliance as set out in Appendix 3, and describe the sign off process for any such changes your involvement and how any changes were communicated to the Board. Was external advice ever sought in respect of design changes?" There were changes to and development of the design during my involvement in the Project, which were recorded in the logs. I note, however, that question 30(d) refers to Appendix 3 of a document entitled 'NHS GGC High Level Information Pack – Supervisor Role' (**Bundle 17, Document No.75, Page 2881**) (the "HLIP"). I note that the HLIP relates to the procurement of the services of the Supervisor i.e. Capita.

139. Question 33 concerns Ward 2A/ 2B RHC. I am informed that the Inquiry understands that Ward 2A/2B is the paediatric-oncology Unit and includes the Teenage Cancer Trust and the paediatric Bone Marrow Transplant (BMT) Unit - the department is known as the Schiehallion Unit. Question 33(a) asks me to confirm my understanding regarding the intended use and purpose of the Ward 2A/2B. I am not aware of the specific ward numbering or designations but do remember the term Schiehallion being mentioned (as it is quite a unique name/title).

140. Question 33(a) also asks what guidance was considered in the design of Ward 2A/2B RHC and what processes Currie & Brown put in place to ensure guidance compliance. As noted above, I am not aware of the specific ward numbering nor designations. Ensuring design compliance was not Currie & Brown's role and was not within my remit or expertise.

141. Question 33(b) asks what changes, if any, were made to the design of Ward 2A/2B RHC during construction. I was no longer involved in the Project once construction commenced and I am therefore unable to answer this question.

142. Question 33(c) asks me to describe the IPC involvement in the design of Wards 2A and 2B, who was involved and who signed off the final design and when. I am not aware of the details of such specific involvement, nor who signed off the final design or when. I had no role in design review and sign-off and my involvement in Project came to an end in December 2010.

143. I have been asked what concerns, if any, I had regarding the final design specification of Wards 2A and 2B (question 33(d)). I did not know the final design specifications of Wards 2A and 2B. I was not involved in design review and signoff and my involvement in Project came to an end in December 2010.

144. Question 33(g) asks about my understanding of the requisite air change rate required in accordance with SHTM guidance in respect of Ward 2A and 2B. I am also asked whether this air change rate was achieved and who signed this off if it was not. I am also asked what risk assessments were considered in respect of this decision. I have no knowledge of these specific matters in relation to Wards 2A and 2B. These are technical matters which I was not involved in and which were outside my remit and Currie & Brown's remit.

145. Questions 34 to 38 concern Isolation Rooms. Question 34 asks me to describe how the number and location of the isolation rooms was agreed and who approved the final number and locations in the QEUH and RHC. I do not know how the number and location of the isolation rooms was agreed or who approved this.

146. Question 35 asks who was responsible for producing the drawings and the specification for isolation rooms and who approved these from the NHS GGC Project Team. Multiplex were responsible for producing the drawings and I am not aware of who approved them from the NHS GGC Project Team. I left the Project in December 2010.

147. Question 36 asks what concerns, if any, did I have regarding isolation rooms and compliance with SHTM/HTM. While I was involved in the Project, my role was to

make sure that issues raised and logged were being addressed and assessed by the Board with support from designers (individuals and organisations with the relevant skills and experience) as necessary.

148. I understand that the Inquiry has reviewed the RDS in excel format and has noted that there is an entry under 'Design Notes' relating to Ward 2A isolation rooms which states: "*WARNING NOTICE: This room is based on a theoretical design model; which has not been validated (see paragraph 1.8 of HBN 4 Supplement 1). Specialist advice should be sought on its design. The lamp repeat call from the bedroom is situated over the door outside the room.*" Question 37(a) asks whether this note was entered on the RDS and if so, why and by whom. I do not know whether this note was entered on the RDS because I was not involved in the review of RDS. I do not recall having seen this note before.

149. Question 37(b) asks what specialist advice was sought relating to the design of these rooms and question 37(c) asks what was the final agreed design for isolation rooms and who approved this. I am not aware of the specifics of the final design and agreement for the rooms as I was not involved in the technical design. I left the Project in December 2010.

150. Question 38 asks why the main extract was placed in the patient's bedroom and not the ensuite as outlined in SHPN 04 Supplement 01, and who from the NHS GGC Project Team requested and approved this change. However, I was not involved in the technical design and so I do not know this. Furthermore, my involvement in the Project ended in December 2010.

Declaration

I believe that the facts stated in this witness statement are true. I understand that proceedings for contempt of court may be brought against anyone who makes, or causes to be made, a false statement in a document verified by a statement of truth without an honest belief in its truth.

Signed: [redacted]

……

Date: 14 April 2025 Name: Mark Baird

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

Appendix A

A47851278 - Scottish Hospitals Inquiry - Hearing Commencing 19 August 2024 - Bundle 16 - Ventilation PPP (External Version)

A49342285 - Scottish Hospitals Inquiry - Hearing Commencing 19 August 2024 - Bundle 17 - Procurement History and Building Contract PPP (External Version)

A48235836 - Scottish Hospitals Inquiry - Hearing Commencing 19 August 2024 - Bundle 18 - Documents referred to in the expert report of Dr J.T. Walker - Volume 1 (of 2) - External Version

A48743262 - Scottish Hospitals Inquiry- Hearing Commencing 13th May 2025 -Bundle 43 Volume 2-

Procurement Contract Design and Construction Miscellaneous documents – External Version

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

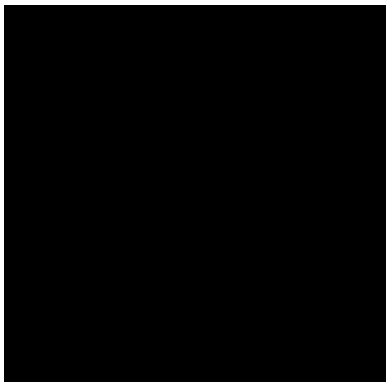
Appendix B

N/A

Appendix C

CV - EXHIBIT SHEET

This is exhibit MB1 referred to in the witness statement of Mark Baird



MARK BAIRD

BSc (Hons), LL.M, MRICS

Director

EXPERIENCE

Tribe Infrastructure (July 2024 – Present)

Lead advisor and financial advisor to a UAE government entity in relation to critical infrastructure. Working with a multi-discipline team (Financial advisor, Legal advisor, and Technical advisor) representing the procurer as lead advisor.

Currie & Brown (1996 – June 2024)

This period included a strong track record in developing strategic client relationships and business development across many sectors. Additionally, this included range of cross- industry experience in supporting the public sector in the development of procurement programmes and in establishing and implementing governance and policy requirements. Mark is experienced in infrastructure and procurement planning and

delivery in both capital works and asset/facilities management settings. Mark has delivered major infrastructure and policy initiatives in the Middle East, and Europe, including a range of PFI/PPP transactions for both public and private sector clients.

ROLES AND REMITS

Mark has carried out a range of activity, acting for the public sector, private sector, and in independent roles across a range of sectors, including healthcare, education, infrastructure, and finance.

Role and remits have included:

- Quantity surveying
- Project management
- Facilities management

KEY ACTIVITY

- Governance protocols and executive liaison
- Stakeholder management and engagement
- Setting strategy and team leadership
- Procurement planning and programmes
- Delivering major projects and initiatives
- Operational planning
- Business change and transition

KEY SKILLS

- Stakeholder liaison
- Contracts and commercial
- PPP/PFI
- Asset/facilities management

QUALIFICATIONS

- Glasgow Caledonian University BSc (Hons) in Quantity Surveying
- Strathclyde University Master of Laws (LL.M in Construction Law)

PROFESSIONAL MEMBERSHIPS

- Member of the Royal Institution of Chartered Surveyors (MRICS)

Scottish Hospitals Inquiry
Witness Statement of
John Redmond

This statement was produced by the process of sending the witness a questionnaire with an introduction followed by a series of questions and spaces for answers. The introduction, questions and answers are produced within the statement.

Personal Details and Professional Background

1. Name, qualifications, chronological professional history, specialism etc – please provide an up-to-date CV to assist with answering this question. Please provide details of your role working for Capita Symonds Limited who became Capita Property and Infrastructure Limited (hereinafter referred to as 'Capita') during the time Capita were appointed as NEC3 Project Supervisor in respect of QEUH/RHC, providing details of when you started and left this role, your responsibilities.

A. Name: John Redmond

Qualifications:

2004 Scottish Qualifications Certificate
Introduction to CAD for Construction.
1993 Direct exams with the Chartered Institute of Building.
1992 Direct exams with the Association of Architects and Surveyors later became the Chartered Association of Building Engineers.
1983 Higher Building Certificate in Law Relating to Building.
1983 Higher Building Certificate in Economics Relating to Building.
1980 Clerk of Works Final Part II.
1979 Higher National Certificate in Building.
1976 Ordinary National Certificate in Building.

Professional History:

From 1973 to 1979 employed as a Clerk of Works with the Scottish Development Agency Supervising small works and maintenance of industrial buildings in Central Scotland.

From 1979 to 1987 gained property management experience working as a Technical Officer at Parkhead Housing Association and as a Maintenance Manager at Yorkhill Housing Association. Projects included tenement rehabilitation up to (£2.5m).

From 1987 to 1988 I was employed as a Building Surveyor with the Automobile Association based at their headquarters in Basingstoke involved with the surveying and refurbishing of retail outlet property throughout the UK.

From 1988 to 1989 employed as a Building Surveyor with Spiers Parnie and Adams and was involved in tenement rehabilitation work, dilapidation, property surveys and providing maintenance advice to clients.

From 1989 to 1992 joined Calder Ashby Chartered Building Surveyors and was responsible for a £1.5m various works contract at Jordanhill School and a variety of other projects including re-roofing, refurbishment work, dilapidations, structural surveys and condition surveys.

From 1992 until 2003 I was employed as the Building Surveyor with Strathkelvin Council/East Dunbartonshire Council. I provided a full Building Surveying Service to all client departments. I carried out “condition surveys” especially in relation to education buildings. This provided a financial feasibility study to identify the condition of property. The reports highlighted the condition and maintenance requirement. I also provided Building Surveying Service in relationship to fire re-instatement of traditional sandstone property, schools, and houses. I was also involvement in refurbishment of sandstone property and Public Buildings.

From 2003 to 2004 I was employed as Project Co-ordinator at South Lanarkshire Council as Project Co-ordinator working with a team of Housing Programme Officers. I also provided training courses for the Area Housing Officers to explain a 5 year programme of remedial and planned maintenance work amounting to £144m.

From 2004 to 2006 I was employed as a Building Surveyor with David Morris Associates and was involved in refurbishment of retail property, conversion of offices into flats, various alteration works to church buildings including work to comply with the Disability Discrimination Act.

From March 2006 until I retired in 2015 I provided Independent Tester Services on a number of hospitals including Romford New Hospital and the New Psychiatric Unit at Stobhill Hospital. I was the Independent Tester on the Birmingham New Hospital Project which was a PFI contract ([redacted]). This was a joint appointment from Consort Healthcare and Birmingham and Solihull Mental Health NHS Trust/University Hospital Birmingham NHS Foundation. I regularly inspected the works, prepared monthly reports and issued Completion Certificates for phased handovers over a 5 year contract period.

NEC3 Project Supervisor in respect of QEUH/RHC:
The contractor is self sufficient in terms of complying with standards and the contractual obligations. My role as an NEC3 Supervisors Service over a period of 5 years from May 2010 until November 2015 on the New South Glasgow Hospital included witnessing tests inspecting and monitoring the works and identifying defects. I carried out checks in particular to work that could be hidden and this was the only situation in the contract where the NEC3 Supervisor could issue an instruction to the contractor.
I notified any defects in accordance with NEC3 (Clause 42.2) to the Contractor and Project Manager/Employer. However the contractor also has an obligation Under Clause 43 to correct a Defect whether notified or not.

I issued monthly reports to the Progress Meeting documenting the activity of the NEC3 Supervisors visits which included visits by the Capita Mechanical, Electrical and Structural Engineers.
I worked closely with the Contractors Quality Manager undertaking reviews of their method statements and quality reviews. Also contained within the report were observation of the works which included supporting site photographs, defects and any tests witnessed. I also issued requests for information or clarification under clause 13.1. I carried out room inspections in areas which the Contractor offered up as complete. When the Project Manager decided on a completion date the NEC3 Supervisor issued the Notification of Defects at Completion.

2. What previous experience or training, if any, did and you have working as NEC3 Project Supervisor? How, if at all, did this experience serve you for the role in respect of QEUH/RHC?

A. I participated in an NEC3 two day training course which gave me an insight into the various clauses relating to the contract.

Appointment as NEC3 Supervisor

3. The Inquiry understands that Capita was appointed as Project Supervisor to undertake the design and support services of an NEC3 Supervisor for the QEUH & RHC. The stages of the project mirrored the Building Contract: Stage 1 (Construct Laboratories), Stage 2 (Detailed design of hospital to FBC submission), Stage 3 (Construction), Stage 3A (Demolition surgical block and landscaping) **(Please refer to Bundle 17, Document No.76, Page 2956)**

a) Describe the appointment process leading up to the Capita's appointment as Project Supervisor.

A. I was not involved with the appointment process.

b) Describe your role and remit.

A. I had no involvement in this process.

c) Describe your working relationship with NHS GGC prior to appointment, had you worked with any members of the NHSGGC Project Team prior to appointment, if so whom and when?

A. I did not have a working relationship with NHSGGC Project Team prior to appointment and had never worked with members of the NHSGGC Project Team prior to appointment.

d) Describe your working relationship with NHS GGC during the terms of your appointment, including day-to-day dealings with the NHS GGC Project Team, members of the details of who you worked with and in respect of what matters?

A. From taking up my post as the NEC3 Supervisor on site in May 2010 I had little dealings on a day to day basis with the Project Team. I presented my monthly report (which was a record of the NEC3 Supervisors activities) to the Project Manager/ Employer and Contractor at the Monthly Progress Meetings.

e) Describe your working relationship with Multiplex prior to appointment, had you worked with any members of Multiplex who worked on QEUH/RHC prior to appointment, if so whom and when?

A. I had no previous working relationship with Multiplex.

f) Describe your working relationship with Multiplex during the terms of your appointment, including day-to-day dealings, and details of whom you worked with?

A. From taking up my post in May 2010 my relationship with Multiplex was professional and collaborative. I work with approximately twelve Area/ Zone Managers who were responsible for the construction of their own areas or zones. Due to the size of the project I carried out joint inspections with the Area/Zone Managers checking drawings and specifications. This was for both the Hospital and the Laboratory Building. During these inspections any defects identified would be noted and a Defect Notification issued under Clauses 42.2.

I also had regular meetings with the Quality Manager to monitor their quality procedures and review their method statements. After completion I had regular meetings with Multiplex to monitor defects identified at completion. I had little or no day to day contact with the senior directors of the Multiplex Team.

g) Who were the area zone managers that you worked with? Can you describe their roles?

A. As it was 15 years ago and the only names I remember are Pete Norton and Mark McKinnon. They managed the various works within zones or areas during the construction process.

h) Describe your day-to-day work on the QEUH/RHC site? What did you do day to day?

A. My day to day work, involved oversight and quality control on construction projects. Monitor the various aspects of the project. This included closely observing the construction process, witnessing tests and identifying any defects that may exist.

To accomplish this I liaised with Brookfield's Zone /Area Managers. I also liaised with Capita's Civil and Structural Engineer and Mechanical/Electrical Engineers colleagues who visited the site in accordance with the activities schedule.

I prepared a Monthly Report which recorded the activates of all the NEC3 Supervisors and presented the report to the Employer at the Monthly Progress Meeting.

i) What drawings and specifications were you checking against?

A. I was checking against Brookfield's Construction drawings and specifications.

j) Who did you report to on a day-to-day basis?

A. I did not report to anyone on a day to day basis.

Review of the 'Works Information'

4. The NEC3 Supervisor was expected to review and comment on the contractor's design proposals. Appendix A, in the High Level Information Pack – Supervisor Role**(Please refer to Bundle 17, Document No.75, Page 2881)**states that this process involved the NEC3 Supervisor reviewing and acquainting himself with all of the contract documentation including, "all design drawings, schedules, specifications, layouts at 1:500, 1:200 & 1:50, specialist suppliers detail drawings and all information listed in Appendix 3…."

a) Describe the review process that Capita engaged with in respect of the design drawings, schedules, specifications, layouts at 1:500, 1:200 & 1:50, specialist suppliers detail drawings and all information listed in Appendix 3.

A. Capita had limited involvement in the RDD and no involvement in design sign off or pre approval. We did however get access to construction drawings after June 2010 and Multiplex arranged access to their Aconex system to review the construction drawings when we started our site visits and inspections.

b) Describe the review process which was required in terms of the NEC3 contract? Describe how you carried out this process? What matters required to be reviewed? What issues, if any, do you recall arising during the review process?

A. As per my previous answer we only got access to construction drawings when we started on site. To the best of my knowledge and recollection the employer asked Capita to review Wallace Whittle ventilation duct drawings which we commented on and returned to the Employer. To the best of my knowledge and recollection Wallace Whittle ventilation duct drawings were the only drawings offered up for review. And this was recorded in the Supervisors Monthly Report. I am unable to provide you with any more detail than I already have.

b) Describe your involvement, if any.

A. I had no involvement.

c) Who was involved and what feedback/ information were you provided in respect of this process?

A. I am unable to provide you with any more detail than I already have.

d) Describe any concerns which arose from the review process, your involvement, if any, and how matters were dealt with, if at all.

A. I did not take part in design review.

e) How did you/Capita fulfil the requirements of Appendix A?

A. Capita had limited involvement in the RDD and no involvement in design sign off or pre approval. We did however get access to construction drawings after June 2010 and Multiplex arranged access to their Aconex system to review the construction drawings.

f) What, if anything, do you recall from this review?

A. I am unable to provide you with any more detail than I already have.

g) How did you meet your obligations if the only drawings you got access to were construction drawings?

A. I am unable to provide you with any more detail than I already have.

5. The Inquiry is aware of the agreed ventilation derogation recorded in the M&E Clarification Log. **(Please refer to Bundle 16, Document No. 23, Page 1662)**

a) When did you first become aware of it and how?

A. I was not involved with this process.

b) At the time what concerns, if any, did you have regarding the derogation? Did you raise any concerns, if so with whom?

A. N/A

6. When did you first become aware of the ZBP Ventilation Strategy Paper dated on or around 15 December 2009? **(Please refer to Bundle 16, Document No.21, Page 1657)**

A. I was not involved in the contract at that stage. I did not take up the post of NEC3 Supervisor until May 2010.

a) Since you were in post, what awareness did you have of this document?

A. To the best of my knowledge I don't recall this document.

b) What, if anything, did you understand of the ventilation requirements for QEUH/RHC?

A. Although not a Mechanical Ventilation Engineer my understanding is that the employer would have provided the design information to enable the contractor to design, install and test the ventilation to the employers requirements.

c) If you did not have an awareness of the ventilation requirements of each Ward, how did you supervise the works that had been carried out in respect of ventilation?

A. I am not qualified as a Mechanical Ventilation Engineer and did not supervise the installation of the ventilation.

d) What concerns if any did you have on reading this document?

A. I am not aware of the document but the NHS Project Team would have signed off design to allow the contractor to produce construction drawings.

e) At any time during your appointment, what concerns, if any, did you have regarding the ventilation specifications for any parts of the QEUH/RHC?

A. I am not a qualified ventilation engineer and I am unable to provide you with any more detail than I already have.

f) How did you ensure the works complied with the ERs including SHTM 03 01?

A. I am not a qualified ventilation engineer and I am unable to provide you with any more detail than I already have.

7. Are you aware of any risk assessments, whether in compliance with the standards in HAI Scribe or otherwise, that NHS GGC carried out in respect of

the change in the ventilation strategy that appears to follow the ZBP Ventilation Strategy Paper dated 15 December 2009?**(Please refer to Bundle 16, Document No.21, Page 1657)**

A. I was not involved in the contract at that stage. I did not take up the post of NEC3 Supervisor until May 2010.

Full Business Case

8. The Inquiry understands that the obligations and role of the NEC3 Supervisor were set out in the High Level Information Pack – Supervisor Role.**(Please refer to Bundle 17,Document No.75, Page 2881)**Appendix 3 provided a List of Design Requirements for the Full Business Case to be provided by the Contractor and notes that the "The Supervisor team will also be asked to review and comment of the package / construction related elements in respect of compliance with the works information as they are developed". How did you/Capita fulfil the requirements of Appendix 3?

A. Capita had limited involvement in the RDD and no involvement in design sign off or pre approval. We did however get access to construction drawings after June 2010 when Multiplex arranged access to their Aconex system to review drawings and packages which were at the construction stage.

a) How, if at all, did you/ Capita ensure compliance with the works information as developed?

A. I am unable to provide you with any more detail than I already have.

b) How, if at all, did you/ Capita fulfil the requirements of Appendix 3?

A. I am unable to provide you with any more detail than I already have.

9. Under 'Services Systems' confirmation was required "that the design fully complies with the requirements of the Employers Requirements, M&E appendices 1 to 6, all HTM's, HBN's, SHTM's and current legislation". The Inquiry is aware of several departures from SHTM 03-01 Guidance in relation

to air change rates, pressure differentials and filtration requirements. There was also a variation to the primary extract arrangement for PPVL isolation rooms from that set out in SHPN 04 Supplement 01. Was Capita aware at the time of these non-compliances? If so, please confirm how Capita communicated these non-compliances to the NHS GGC Project Team. If no action was taken by the NHS GGC Project Team what obligations, if any, did Capita have to report matters further and to whom?

A. Capita was not involved in the contract until May 2010 and had no involvement with the design and was not aware of these non-compliances.

a) From the date of your appointment, was Capita aware at the time of these non-compliances? If so, please confirm how Capita communicated these non-compliances to the NHS GGC Project Team. If no action was taken by the NHS GGC Project Team what obligations, if any, did Capita have to report matters further and to whom?

A. I am unable to provide you with any more detail than I already have.

b) So how did Capita ensure contractor compliance with the contract?

A. I am unable to provide you with any more detail than I already have.

10. Was the Ventilation Derogation noted in the M&E Clarification Log, recorded in the Full Business Case? Who was responsible for doing this? If you were aware that it had not been recorded in the Full Business Case please explain what action, if any, you took.

A. I have no knowledge of this.

Design and Construction and Role in the QEUH/RHC Project

11. The Inquiry understands that drawings and Room Data Sheets (RDS) were approved through the Reviewable Design Data (RDD) process. However, the HLIP states that Supervisor team were not to be involved in the design sign off process with the user groups and contactors design team.**(Please refer to**

Bundle 17,DocumentNo.75, Page 2881) Can you please confirm if you/Capita had any role in the RDD process and User Group Meetings.

A. Capita had no role in the RDD process and User Group Meetings.

a) Following the sign off process for drawings and Room Data Sheets, how was this information shared with Capita?

A. Drawings would have been uploaded onto Aconex and Capita would have had access to them after June 2010.

b) How were decisions agreed at the user group meetings communicated to Capita?

A. I have no knowledge of this.

c) How then were relevant matters communicated to you/ Capita?

A. I am unable to provide you with any more detail than I already have.

d) How were areas in dispute or items still to be agreed highlighted to Capita?

A. I have no knowledge of this.

12. Please describe how the technical requirements (air change rates, pressure differentials and filter requirements) for the rooms were managed and approved, including your role and involvement.

A. I have no knowledge and had no involvement in the approval process.

13. Appendix 3 states: “Commissioning settings for all elements of the works, including microbiological testing proposals for operating theatres and specialist ventilation…Confirmation that the design fully complies with the requirements of the Employers Requirements, M&E appendices 1 to 6, all HTM’s, HBN’s, SHTM’s and current legislation”.

a) Describe the intended use and purpose of the following wards in QEUH/RHC: Ward 4B – QEUH; Ward 4C – QEUH; Level 5 – QEUH; Critical Care – QEUH; Ward 2A & 2B – RHC; PICU RHC – RHC; all Isolation rooms.

A. I have no knowledge of this and was not involved during the design development of the project.

b) How did your lack of knowledge of the intended use and purpose of the Wards impact, if at all, you/ Capita supervising the works being carried out?

A. I am unable to provide you with any more detail than I already have.

c) Was knowledge of the Wards and purpose of Wards not necessary for carrying out the role of supervisor?

A. I am unable to provide you with any more detail than I already have.

d) If you were not aware of the intended use and purpose of the Wards, how did you/ Capita ensure "*that that the design fully complies with the requirements of the Employers Requirements, M&E appendices 1 to 6, all HTM's, HBN's, SHTM's and current legislation"* in accordance with Appendix 3?

A. I am unable to provide you with any more detail than I already have.

e) What were the specifications of these wards?

A. I have no knowledge of this and did not take part in the design of these areas. Capita had no involvement in design sign off or pre approval.

f) What guidance was considered in the design of these wards, what processes were in place to ensure guidance compliance?

A. Capita had no involvement in design sign off or pre approval of these wards. It was my understanding that the design would have been signed off by the Employer.

g) Appendix 3 states *"that the design fully complies with the requirements of the Employers Requirements, M&E appendices 1 to 6, all HTM's, HBN's, SHTM's and current legislation"* therefore during the build following the design how did you/ Capita ensure compliance?

A. I am unable to provide you with any more detail than I already have.

h) Were there any changes to the design during the design and build, if so, please describe any such changes, describe the impact, if any, on guidance compliance as set out in Appendix 3, and describe the sign off process for any such changes, your involvement and how any changes were communicated to the Board. Was external advice ever sought in respect of design changes?

A. Capita had no involvement in design sign off or pre approval.

i) Do you recall any design changes during the build? If so, please describe these changes and your role/ how these changes impacted your role and were communicated to you?

A. To the best of my knowledge I don't recall a design change.

14. As per Appendix 3, the NEC3 Supervisor was required to be involved in theDesign Acceptance Procedure which meant considering "Clinical functionality" and in turn "infection control".

a) Describe your involvement, if any, in the 'Design Acceptance Procedure', what action was taken and by whom?

A. Capita had no involvement in this process.

b) If Capita was not involved as NEC3 Supervisor who would have carried out the obligations of NEC3 Supervisor?

A. I am unable to provide any more detail than I already have.

c) What was your involvement with Infection Prevent and Control staff at this stage? Provide details of from Infection Control staff you were involved with and when.

A. I had no involvement with Infection Prevent and Control staff.

d) How, if at all, was "Clinical functionality" and in turn "infection control" considered?

A. I no involvement with this process.

e) Describe any concerns you had with any aspects of the design and build during the 'Design Acceptance Procedure', what action, if any, did you take? Were matters resolved and if so, how so?

A. Capita had no involvement in the Design Acceptance Procedure.

f) Who would have been involved in this process? When would this process have been carried out?

A. I am unable to provide any more detail than I already have.

15. The Inquiry understands that as part of the NEC3 Supervisor role, duties included monitoring the works on site to ensure compliance with the 'works information' and to witness any testing.

a) Please confirm, how often you were on site. Were any other employees from Capita on site carrying out inspections? If so, please describe each role.

A. I was on site weekly carrying out inspections. My Mechanical, Electrical and Structural Engineer colleagues visited the site in accordance with the Activities Schedule and we all liaised with Multiplex when carrying out inspections and witnessing tests. Following my colleagues visits to site our activities were recorded in the Supervisors Monthly Report and presented to the Project Manager and Contractor at the monthly progress meetings. All defects identified were notified to the Project Manager and the Multiplex. The resources provided by Capita leading up to the handover was myself predominately carrying out above ceiling inspections and room inspections and my colleague who was witnessing tests.

b) Did Capita correct/comment on these Reports?

A. Supervisors Monthly Report was updated every month.

c) Were site visits also carried out with the NHS GGC Project Team?If so, how often and who attended.

A. I don't know when the NHS GGC Project Team carried out visits or who attended.

d) Please confirm what meetings were held to discuss progress, including frequency of such meetings and who attended.

A. The Progress Meeting were held monthly where Multiplex presented their Progress Report. The meetings were chaired by the Project Manager. The Contractors and Capita's representative also attended.

e) Please confirm how Capita provided the NHS GGC Project Team with updates regarding progress on site.

A. Capita did not report on the progress on site. It was the responsibility of the Contractor to provide progress reports to the Project Manager at the monthly Progress Meetings.

16. Describe your involvement and understanding, if any, of the decision to remove carbon filters? What was the rationale behind this decision, who was involved and what advice, if any, was sought in reaching this decision?

A. I had no involvement in the decision to remove carbon filters. This was decided between the Project Manager, Employer and Multiplex.

Ward 4B and 4C

17. The Inquiry understands that Ward 4B in the QEUH was originally intended to provide accommodation for Renal and Haemato-oncology patients. The 2009 NHS Clinical Output Specification for the Haemato-oncology ward stated, "Please note the haemato-oncology ward area has a very specific function and a considerably higher than average requirement for additional engineering support/infrastructure. There should be no opening windows, no chilled beams. Space sealed and ventilated. Positive pressure to rest of the hospital and all highly filtered air >90%, probably best HEPA with adequate number of positive pressure sealed HEPA filtered side rooms for neutropenic patients as in the Beatson West of Scotland Cancer Centre." **(Please refer to Bundle 16, Document No.15, Page 1595).**However, following a Change Order Request in July 2013 by Jonathan Best **(Please refer to Bundle 16,**

Document No.29, Page 1699)it was confirmed that the Bone Marrow Transplant (BMT) service would transfer to Ward 4B in the QEUH and the haematology patients that were originally planned to accommodate Ward 4B would move to Ward 4C.

a) Please confirm how this change was communicated to Capita and how this change was captured in the revised design and specification documentation, following the Change Order Request.

A. I have no knowledge of this being communicated to Capita or this change being discussed at the Monthly Progress Meeting. I do not recall seeing any revised construction drawings being issued by the Contractor.

b) Why were suspended ceilings installed in Ward 4B given that the Clinical Output Specification (COS) referred to ‘space sealed’ – did Capita raise this as a non-compliance with the ‘Works Information’?

A. I do not recall seeing any revised drawings issued by the Contractor changing the ceiling type and I don’t recall a Defect being issued at the time. However Multiplex had an obligation under the contract to correct a defect whether notified or not.

c) Please confirm who approved the reflected ceiling plans for this area.

A. I do not know who approved the reflected ceiling plans but approving plans are not within the role and responsibilities of the NEC3 Supervisor.

d) As construction progressed on site, please confirm if suspended ceilings were highlighted as non-compliant with the COS (works information).

A. I do not recall seeing any revised drawings issued by the Contractor showing a change in the ceiling type and don’t I recall a defect being notified by either Capita or Multiplex in accordance with clause 42.2.

e) In respect of Ward 4C what was the specification of this ward at the point of the Change Order? Did you understand that Ward 4C was to be used to house immunocompromised patients? If so, what was the justification from

departing from SHTM guidance in respect of ventilation and who signed this off?

A. I am not a Mechanical ventilation Engineer and I do not recall what the specification was and I was not aware of the change order or who was responsible signing this off.

f) What was your understanding of the requisite air change rate required in accordance with SHTM guidance in respect of Ward 4B and 4C, and was this the air change rate achieved? If not, why not and who signed this off? What risk assessments were considered in respect of this decision?

A. I am not a qualified Mechanical Ventilation Engineer and I did not have access to this information and I have no knowledge of who signed it off.

g) If you did not have this information how did you carry out your function of ensuring contract compliance?

A. I am unable to provide any more detail than I already have.

Ward 2A/ 2B RHC

18. The Inquiry understands that Ward 2A/2B is the paediatric-oncology Unit and includes the Teenage Cancer Trust and the paediatric Bone Marrow Transplant (BMT) Unit - the department is known as the Schiehallion Unit.

a) Confirm your understanding regarding the intended use and purpose of the Ward 2A/2B, what guidance was considered in the design of these wards, what processes Capita put in place to ensure guidance compliance?

A. Capita was not involved in the design of these wards.

b) While you/ Capita were not involved in the design, what was your understanding at the time, if any, of the intended useand purpose of Ward 2A/ 2B?

A. I am unable to provide any more detail than I already have.

c) If you/ Capita were not aware of the intended use and purpose of Ward 2A/ 2B, how did you ensure and put processes in place to ensure that guidance compliance?

A. I am unable to provide any more detail than I already have.

d) What changes, if any, were made to the design during construction? Please describe any such changes, describe the impact, if any, on guidance compliance, and describe the sign off process for any such changes and your involvement. Was external advance ever sought in respect of design changes?

A. Capita was not involved in the design or sign off of these wards.

e) Describe the IPC involvement in the design of Wards 2A and 2B, who was involved and who signed off the final design and when?

A. Capita was not involved in the design of these wards.

f) What concerns, if any, did you have regarding the final design specification of Wards 2A and 2B, and what action, if any, did you take in respect of these concerns?

A. Capita was not involved in the design of these wards.

g) What was your understanding of the requisite air change rate required in accordance with SHTM guidance in respect of Ward 2A and 2B, and was this the air change rate achieved? If not, why not and who signed this off? What risk assessments were considered in respect of this decision?

A. I am not a qualified Mechanical VentilationEngineer and I did not have access to this information and I have no knowledge who signed it off.

h) If you did not have this information how did you carry out your function of ensuring contract compliance?

A. I am unable to provide any more detail than I already have.

Isolation Rooms

19. Describe how the number and location of the isolation rooms was agreed? Who approved the final number and locations in the QEUH and RHC?

A. Capita was not involved in the design of these rooms and I do not know who approved the isolation rooms.

20. Who was responsible for producing the drawings and the specification for isolation rooms; who approved these from the NHS GGC Project Team?

A. Capita was not involved in the design of these rooms and I do not know who approved the drawings and the specification.

21. What concerns, if any, did you have regarding isolation rooms and compliance with SHTM/HTM? What action, if any, did you take in respect of any such concerns?

A. Capita was not involved in the design of these rooms.

22. The Inquiry has reviewed the RDS in excel format and note there is an entry under 'Design Notes' relating to Ward 2A isolation rooms, the entry states:

"WARNING NOTICE: This room is based on a theoretical design model; which has not been validated (see paragraph 1.8 of HBN 4 Supplement 1). Specialist advice should be sought on its design. The lamp repeat call from the bedroom is situated over the door outside the room."

a) Was this note entered on the RDS? If so, why and by whom?

A. I have no knowledge of this.

b) What specialist advice was sought relating to the design of these rooms?

A. Capita was not involved in the design of these rooms.

c) What was the final agreed design for isolation rooms and who approved this?

A. Capita was not involved in the design of these rooms and I don't know who approved them.

23. Why was the main extract placed in the patient's bedroom and not the ensuite as outlined in SHPN 04 Supplement 01? Why was this change requested, who requested this change and who approved this from the NHS GGC Project Team?

A. Capita was not involved in the design of these rooms and do not know why the change was requested or who approved the change.

a) Was it not your job to ensure these rooms complied with guidance?

A. I am unable to provide any more detail than I already have.

Water and taps

24. Describe your involvement, if any, in respect of the decision to use Horne taps.

A. Capita had no involvement in this process.

a) What concerns, if any, did you have regarding the use of Horne taps?

A. None.

b) At the time, were you aware of the incidents in Northern Ireland with Horne Taps? If so, did this not give you cause for concern?

A. I was not aware of the incident in Northern Ireland.

c) What risk assessments were carried out in respect of the use of Horne taps?

A. Capita were not involved in the selection of Horne taps.

d) Who was involved in, and who signed off the use of Horne taps?

A. I don't have any knowledge of this and do not know who signed off the taps.

e) Did you attend the meeting regarding the use of Horne taps in 2014? If so, why was the decision made to proceed with Horne taps?

A. I did not attend the meeting regarding the use of Horne taps.

f) Did the use of Horne Taps depend on thermal disinfection? If so why, if not,why not? What action, if any, was taken regarding this, and your involvement, if any.

A. I did not have any involvement with this.

25. Are you aware of the water system having been filled prior to handover on 26 January 2015?If so, who filled the system, why was it filled and what concerns, if any, did you have, and if you had concerns to whom did you escalate these concerns?

A. I did not have any involvement with this process.

a) Please confirm if you were aware of the process and had or raised any concerns?

A. To the best of my knowledge I don't recall this process.

Commissioning and Validation

26. **Please refer to Bundle 17, Document No. 78, Page 2959**.Describe Capita's responsibilities and involvement, if any, in respect of witnessing testing of commissioning activities in relation to the ventilation system and water system at QEUH/RHC.

A. Our responsibility in accordance with NEC3 Clause 40.3 was that the Supervisor may watch any test done by the contractor. When notified of any tests my colleague witness these and the result of the tests were recorded in the Supervisors Monthly Report. If a test was unsuccessful the contractor corrected the error and a further tested was carried out. My colleague did witness tests in relation to the operation of smoke dampers, air handling units and witnessed a water sample being taken. These were recorded in the

Supervisors January Report Bundle 15 page 991. Did Capita countersign test results? No Capita do not countersign test results. Tests are witnessed and reported in the Supervisors Monthly Report.

a) Did Capita witness all of the tests? If not, how did Capita ensure that it met its obligations under the NEC3 Supervisor Contract?

A. In accordance with the NEC3 Supervisor Contract Capita witness tests notified by Multiplex and recorded these in our Monthly Reports.

b) The Inquiry understands from your response above, that the only tests required to be supervised as those Capita was advised to witness by Multiplex, is this correct?

A. In accordance with NEC3 Clause 40.3 the Supervisor may watch any test done by the contractor. The NEC3 does not supervise tests. They witness them in accordance with the NEC3 Contract. To witness a test we need to know when the particular work is at a stage when a test can be carried out.

c) If this is the case, are you aware of other tests (not advised by Multiplex) being carried out, and if so, what tests were these, and who carried them out?

A. To the best of my knowledge I do not know of other tests not advised by Multiplex.

d) What concerns, if any, did you have regarding commissioning of the ventilation system and water system prior to handover of the QEUH/RHC? What action, if any, did you take to escalate these concerns?

A. I am not a Mechanical Ventilation Engineer and was not involved with any of these processes.

e) In your capacity, what concerns, if any, did you have regarding the commissioning of the ventilation system and water system prior to handover of the QEUH/RHC?

A. I am unable to provide any more detail than I already have.

27. Who was responsible for ensuring that commissioning of the water and ventilation system was carried out, and who signed off that it had been carried out?

A. The contractor was responsible for the commissioning of the water and ventilation system. The commissioning contractor is responsible for commissioning and balancing the ventilation system and to issue a Ventilation Commissioning Certificate to satisfy Building Control Certification. These certifications allow the Project Manager to issue the Sectional Completion Certificate. I do not know who signed off that the water test had been carried out**.**

28. **Please refer to Bundle 16, Document No.13, page 1357.Clause 6.8.4.2 of the Volume 2/1 Employer's Requirements**, which formed part of the Building Contract, states that the "Contractor" was required to arrange, "all factory testing and shall furnish the Board, its Project Manager and its Supervisor with the opportunity to witness all factory testing and sign off marked items of Plants and Materials. The Board, its Technical Advisors and the Supervisor shall be given fourteen days notices of such testing."

a) Was Capita given the opportunity to witness all factory testing and sign off on marked items of Plants and Materials?

A. No Capita were never invited to witness factory testing.

b) If Capita was given the opportunity to witness all factory testing, please describe the process.

A. N/A

c) If Capita was not given the opportunity to witness all factory testing, why not? How did this impact, if at all, Capita's role as NEC3 Supervisor?

A. I do not know why Capita was not invited to witness factory tests. It's my understanding that the client and contractor would have specified products and components at the design stage to the relevant standards including British Standards and in accordance with the Building Regulations.

Consequently there would be very little impact on the role of the NEC3 Supervisor.

29. The Inquiry understands that NHS GGC decided to forgo the requirement to have an independent commissioning engineer. Who made this decision? What was the rationale was behind this decision? What was the impact, if any, of this decision? In hindsight, do you think that it was the correct decision?

A. I do not know who made the decision not to appoint an independent commissioning engineer therefore I don't know the rationale behind the decision. I do not know what the impact was. I have no information to comment on whether it was the correct decision and was not involved with the Completion Criteria Meetings.

30. **Please refer to Bundle 15, Document 7, page 606**. SHTM 04-01, part E states that, "any pipes delivered unprotected or with open ends should be rejected". The Inquiry understands that Capita highlighted on a number of occasions that pipework was being left upon during the construction work making them vulnerable to contamination. What was done to rectify this issue? Was such pipework subsequently rejected?

A. Multiplex protected the ends by temporarily covering them during the installation. The pipes were not rejected. Under the NEC3 contract the Supervisor cannot instruct Multiplex. Only the Project Manager can.

a) Were the ends ever permanently covered? If so, when?

A. I am unable to provide any more detail than I already have.

31. Was the energy centre commissioned prior to NHS GGC taking occupation of QEUH? If so, describe what you know about the commissioning of the energy centre. Provide details of the intricacies in relation to its completion.

A. I have no knowledge of the commissioning of the Energy Centre. I was not involved with its completion and was not involved with the Completion Criteria Meetings.

32. Describe your involvement, if any, in the decision for the energy centre to be retained by Multiplex following handover. What as the rationale/when was the energy centre handed over to NHS GGC, and what was your involvement, if any? Describe your knowledge and understanding, if any, of a payment being made by NHS GGC to Multiplex in respect of the energy centre following same being handed over.

A. I had no involvement with the decision that the Project Manger and Employer made with Multiplex to retain the Energy Centre.

33. Please describe what role, Capita had, if any, in ensuring that validation was carried out?

A. We had no role in the validation of the Energy Centre.

a) Ventilation validation should have been carried out by or on behalf of GGC before accepting rooms . What did capita do to ensure that happened?

A. I am unable to provide any more detail than I already have.

Handover

34. How was Capita assured that commissioning had been successfully completed in compliance with all relevant standards when signing the Sectional Completion Certificate and Notification of Defects at Completion?
(Please refer to Bundle 12, Document No.3, Page 23 and Bundle 12, DocumentNo.113, Page 848)

A. The Project Manager and members of his Technical Team had Completion Criteria meetings with Multiplex. Capita was not involved with these meetings. All of the documentation including the Ventilation Commissioning Certificate which satisfies Building Control Certification would have been made available to the Project Manager to allow the issue of the Sectional Completion Certificate. Without all the appropriate certification the project Manager cannot issue the Sectional Completion Certificate.

The NEC3 Supervisor signing of the Sectional Completion Certificate was confirmation that inspections had been carried out and any defects discovered were entered onto the Multiplex Data Management System. This allowed the Notification of Defects at Completion to be issued. In accordance with the NEC3 Contract only the Project Manager can sign off the contract.

a) How was capita assured not of compliance with building standards but with the compulsory guidance in the contract? You make reference to any defects discovered, was it Capita's job to ensure there were none?

A. I am unable to provide any more detail than I already have.

35. Who did the final inspections of the QEUH/RHC before handover in January 2015? Did you think the hospitals were ready to be handed over at that point? If not, why not?

A. Because of the size of the hospital inspections were carried out by myself the various Multiplex Managers and the NHS Technical Team over a period of weeks. These defects were then uploaded onto Multiplex Data Management System. It is not within my remit to speculate whether the hospitals should have been handed over at that point. However in accordance with NEC3 clause 11.1 completion is purely about the state the works are in at the time of the handover. It's the Project Managers responsibility to determine if the works meet the criteria for completion under clause NEC3 clause 35.I do not know the circumstances why the Project Manager/ Employer accepted handover.

a) Was it not capita's role to ensure that Multiplex had complied with the contract so the PM could sign off?

A. I am unable to provide any more detail than I already have.

36. Did you consider it appropriate for the handover of QEUH/RHC to take place when the energy centre was not operational due to design issues? Did you appreciate at the time of handover that it would take almost a year before the energy centre was in a position to be brought online?

A. Capita did not have a role in the contract to decide when the Energy Centre should be handed over. I was not involved in discussion between the Project Manager, and Multiplex.

37. Did the Sectional Completion Certificate list all of the known defects with the hospital at the point of handover? If so, why was the energy centre not included on the list of defects given it was not operational at the time of handover?

(Please refer to Bundle 12, Document No.3, Page 23)

A. The Sectional Completion does not list the known defects, the Defect Notification at Completion does. My understanding is that the Energy Centre was incomplete work as agreed between Multiplex and the Employer and not part of the handover. I do not have access to the NEC3 Supervisors Reports consequently I cannot confirm if any Defect Notification were issued.

38. The Inquiry understands that no validation was carried out in respect of the ventilation system of QEUH/RHC prior to handover.

A. The Project Manager was having Completion Criteria Meetings with Multiplex to manage the Inspection Testing and Acceptance of the Hospital. Capita were not involved in these meetings. Although not qualified in mechanical and ventilation I was aware that validation was carried out as it’s an integral part of the commissioning and balancing of ventilation systems by the commissioning contractor. This resulted in the commissioning contractor issuing a Ventilation Commissioning Certificate which satisfies Building Control Certification. Both these certificates together with other commissioning certificates would have allowed the Project Manager/Employer to issue the Sectional Completion Certificate.

a) The Inquiry has heard evidence that no validation of the ventilation system was carried out. Who do you understand carried out validation of the ventilation system? Who advised you that this had been done?

A. I am unable to provide any more detail than I already have.

b) When did you become aware of this?

A. See my previous answer

c) The Inquiry understands from Document A45099401 **(Please refer to Bundle 43, Volume 5, Document 126, Page 992)** that Capita were expected to "check and validate every room" –
please confirm what is meant by check and validate every room and confirm Capita's role with regards to Inspection, Testing, Commissioning & Acceptance as recorded in Document A45099401.

A. Checking and validating of rooms was carried out using Room Data Sheets provided by Multiplex which are elevation drawings of the room providing detailed briefing requirements of individual rooms in the hospital. Inspections were carried out with the Multiplex manager responsible for that area and any defect found by Capita were recorded and stored and managed on an Integrated Database Management

d) How did you validate each room, what guidance was the validation process tested against? Describe the process.

A. The finished rooms were offered up as complete by the contractor and inspections were carried out as described in my previous answer. The drawings as mentioned in the previous answer showed the finishing, positions of fixtures and fittings. These were checked to determine if they had been installed correctly. The general quality of the finish in the room was also checked and any defects identified and recorded.

e) What documentation, if any, did Capita produce and provide in respect of validation and where would this have been stored?

A. Defects were recorded on hand held devices by Multiplex managers who

accompanied Capita during inspections. All defects identified from the room inspections were stored in their Integrated Database Management System managed by Multiplex.

f) In respect of validation, what documents did Capita produce and where would this have been stored?

A. Capita's inspections to identify defect are recorded in the Supervisors Monthly Reports and defects issued to the Multiplex and Project Manager. Defects identified from the completed room inspections were uploaded to the Integrated Database Management System managed by Multiplex.

g) How did handover come to be accepted without the ventilation system being validated? Who was responsible for this and who signed off on this?

A. It is the Project Managers responsibility under the NEC3 Contract to certify completion, signing and issuing of the Sectional Completion Certificate. The Project Manager had Completion Criteria Meetings with Multiplex to manage the Inspection Testing and Acceptance of the Hospital. The Project Manager would have required the Ventilation Commissioning Certificate. This is evidence that a ventilation system has been correctly installed, inspected and commissioned to satisfy Building Control Certification and would have allowed the Project Manager/Employer to issue the Sectional Completion Certificate.

h) Validation on behalf of GGC was required before handover. What did Capita do to ensure this was done?

A. I am unable to provide any more detail than I already have.

39. Who was responsible for providing asset tagging. Why was there no asset tagging, who decided to proceed to handover of the QEUH/RHC without it?

A. I do not know who provided asset tagging and why there was none. Capita was not involved with this process. I do not know who decided to proceed to handover without them.

a) If as the Inquiry understands asset tagging was a Multiplex responsibility what

did Capita do to ensure it was in place?

A. I am unable to provide any more detail than I already have.

40. Describe Capita's involvement, if any, in works carried out following handover. Describe the nature of these works, whether remedial or new works, the cost and responsibility of payment of these works, details of who instructed the works and when.

A. Following handover the Monthly Meetings ceased however Capita still issued an NEC3 Monthly Report to the Project Manager and Employer and Multiplex. Capita continued to inspect the outstanding defects in the hospital reported at handover and continued to issue Defect Notifications to the Contractor, Project Manager and Employer. Capita had regular meetings with the Quality Manager from Multiplex to interrogate their Integrated Database Management System. Capita continued to inspect the new work at the Neurology Building and included this in the NEC3 Monthly Report to the Project Manager, Employer and Multiplex. Capita cannot issue instructions to Multiplex although there is one exception and that is to search if there was a suspicion of a hidden defect. Consequently Capita did not have any involvement in the payment of these works or know who instructed the works and when.

Declaration

41. I believe that the facts stated in this witness statement are true. I understand that proceedings for contempt of court may be brought against anyone who makes, or causes to be made, a false statement in a document verified by a statement of truth without an honest belief in its truth.

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

Appendix A

A45099401 – Scottish Hospitals Inquiry – Hearing Commencing 13 May 2025 – Bundle 43, Volume 5 – Procurement, Contract, Design and Construction Miscellaneous Documents

A47069198 – Scottish Hospitals Inquiry – Hearing Commencing 19 August 2024 – Bundle 12- Estates Communications

A47664054 – Scottish Hospitals Inquiry – Hearing Commencing 19 August 2024 – Bundle 15 – Water PPP

A47851278 – Scottish Hospitals Inquiry – Hearing Commencing 19 August 2024 – Bundle 16 – Ventilation PPP

A49342285 – Scottish Hospitals Inquiry – Hearing Commencing 19 August 2024 – Bundle 17 – Procurement History and Building Contract PPP

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

Appendix B

John Redmond CV (A51812670)

John Redmond
MCIOB, MBEng

Special Expertise

- Both as a Maintenance Manager and a Building Surveyor involved in “cost management” and comprises of the overall planning, co-ordination, control and reporting of all cost-related aspects from project initiation to operation and maintenance.
- Undertaking “condition surveys” especially in relation to education buildings. Principally to carry out a physical and financial feasibility study to identify the

condition of property. To produce reports including maintenance budgets, thus allowing the production of asset management plans. Highlighting the condition and maintenance requirement which allows the client to decide on the appropriate route to finance future projects.

- Fire re-instatement experience of traditional sandstone property, schools, and houses.
- Involvement in refurbishment of sandstone property and Public Buildings.
- Knowledge of sandstone restoration which was the subject of a dissertation presented as part of the examinations for the Incorporated Association of Architects and Surveyors.
- Expertise in the Building (Scotland) Regulations 2004.

Project Experience

Birmingham New Hospitals Project ([redacted])

Independent Tester in relation to the PFI contract for the construction of the Birmingham New Hospitals Project. A joint appointment from Consort Healthcare and Birmingham and Solihull Mental Health NHS Trust/University Hospital Birmingham NHS Foundation Trust.

Stobhill LFPU ([redacted])

Independent Tester support in relation to the PFI contract for the construction of the new psychiatric unit at Stobhill Hospital. A joint appointment from Canmore Partnership Ltd and Greater Glasgow Health Board

Project Manager and Building Surveying services on a variety of projects.
Housing Programming Co-ordinator.

Previous Projects included:

- ([redacted]) Renewal, repair, and new work at Jordanhill School Glasgow. ([redacted]) Refurbishment of Bishopbriggs Library. Contract Administration role. ([redacted]) DDA upgrades.
- Reproofing projects to education facilities. Up to ([redacted]
- Demolition of tenement property including structural work to adjacent property.
- Numerous fire re-instatement projects.
- ([redacted]) conversation of offices into flats in a conservation area.

Background & Other Interests

From 1979 to 1987 gained property management experience working as a Technical Officer at Parkhead Housing Association and as a Maintenance Manager at Yorkhill Housing Association. Projects included tenement rehabilitation up to (£2.5m).

From 1987 to 1988 was employed as a Building Surveyor with the Automobile Association based at their headquarters in Basingstoke involved with the identifying and refurbishing of retail outlet property throughout the UK.

In 1988 returned to Scotland as a Building Surveyor with Spiers Parnie and Adams involved in tenement rehabilitation work, dilapidation, structural surveys and maintenance advice to clients.

From 1989 to 1992 joined Calder Ashby Chartered Building Surveyors and was responsible for the £1.5m various works contract and a variety of smaller project including re-roofing, refurbishment work, dilapidations, structural surveys and condition surveys.

In 1992 until 2003 was employed as the Building Surveyor with Strathkelvin Council which was superseded by East Dunbartonshire Council in 1996. Provided a full Building Surveying service to all client departments.

In 1996 gained recognition as an Arquitecto Tecnico from the Consejo General de la Arquitectura Tecnica.
In 2003 moved to South Lanarkshire Council as Project Co-ordinator and lead a team of Housing Programme Officers. Also provided training courses for the Area Offices to explain the 5 year programme of remedial and planned maintenance work amounting to £144m.

In 2004 was employed as a Building Surveyor with David Morris Associates and was involved in refurbishment of retail property, conversion of offices into flats, various alteration works to church buildings including DDA work.

From 2006 until I retired in 2015 I provided Independent Tester Services on a number of hospitals including Romford New Hospital and the New Psychiatric Unit at Stobhill Hospital.
I was the Independent Tester on the Birmingham New Hospital Project which was a PFI contract ([redacted]). This was a joint appointment from Consort Healthcare and Birmingham and Solihull Mental Health NHS Trust/University Hospital Birmingham NHS Foundation. I regularly inspected the works, prepared monthly reports and issued Completion Certificates for phased handovers over a 5 year contract period.
My role as an NEC3 Supervisors Service over a period of 5 years from June 2010 until November 2015 on the New South Glasgow Hospital included witnessing tests inspecting and monitoring the works and identifying defects. I regularly inspected the works, prepared monthly reports and issued the Defect Notification at Completion. I also carried out checks in particular to work that could be hidden and this was the only situation in the contract where the NEC3 Supervisor could issue an instruction to the contractor.

Scottish Hospitals Inquiry
Witness Statement of
Alan Seabourne

This statement was produced by the process of sending the witness a questionnaire with an introduction followed by a series of questions and spaces for answers. The introduction, questions and answers are produced within the statement.

Personal Details

1. Name, qualifications, chronological professional history, specialism etc – please provide an up-to-date CV to assist with answering this question.

A. Alan Seabourne,
Higher National Certificate in Engineering (Mechanical & Electrical) Higher National Certificate in Management Studies, Higher National Diploma in Microprocessors in Engineering. Honorary Fellowship of the University of Glasgow for outstanding services to the University. (**see CV - Appendix C**).

Professional Background

2. Professional role(s) within the NHS.

A. (see CV - Appendix C)

3. Professional role (s) at QEUH/RHC, including dates when role(s) was occupied.

A. My understanding is this question means my role in the New South Glasgow Hospital (NSGH) Project Team as there was no entity in my time regarding QEUH/RHC. Project Director NSGH from June 2006 to July 2013. (see CV - Appendix C)

4. Area(s) of the hospital in which you worked/work.

A. Does this mean physical areas? If so regarding my role as project director NSGH Project I worked both off site from June 2006 until June 2010 and on site at the constructions offices from June 2010 until July 2013. During my NHS career I have worked in many acute hospitals both adult and children's, mental health hospitals, learning disability hospital and health board corporate offices.

5. Role and responsibilities within the above area(s)

A. (see CV - Appendix C)

6. Who did you report to? Did the person(s) you reported to change over time? If so, how and when did it change?

A. For the role of Project Director NSGH I reported to Helene Byrne, Director of Acute Services Strategy, Implementation and Planning who was the Project SRO and Project Design Champion. Think she left sometime in 2010. I also had a linked Board Non-Executive Director called Ken Winter who was retired Balfour Beattie European Managing Director who was brought in by the Scottish Government to give some support to the Health Board regarding this project. After Helen left I reported to Jane Grant, Chief Operating Officer Acute Services NHS GGC and Robert Calderwood Chief Executive NHS GGC up until I retired in July 2013.

7. Who selected you for your role(s)? When were you selected for your role(s)? Please describe the selection process for appointment to this/these roles?

A. For my transfer from NHS Argyll & Clyde to NHS Greater Glasgow & Clyde it was a redeployment process (managed by NHS Glasgow and NHS Highland Leadership Teams) which included an interview process and an assessment process (around September 2025) arranged for all middle to senior management staff in NHS Argyll & Clyde Health Board who now needed to be redeployed after the Health Minister Andy Kerr dissolved Argyll & Clyde Health Board and put it under the control of NHS Glasgow and NHS Highland in 2005.

I applied for two jobs from the list available to me i.e. two similar roles to what I was currently doing at that time as no one being transferred was allowed to apply for their current job, I don’t know why that was a precondition as it was never explained to any of us. My first choice was for the role of Director of Clyde Acute Services and my second choice was Chief Officer of Renfrewshire Health and Social Care Community Partnership (H&SCP). I was not offered any of my choices and I was offered the role of Project Director for the New South Glasgow Hospital Project (NSGH) sometime I think in November/December 2005. The job of Project Director NSGH was not on the list of jobs offered to

candidates so it was rather a surprise when I was told this was my only offer. It wasn't the role I wanted or applied for mainly because I was making a really positive impact in Inverclyde and enjoying what I was doing and getting excellent feedback from service stakeholders. I did not think this role would be a long term role because I thought it would never be funded. The lead officer for the transfer process was Ann Hawkins, Director of Transition NHS GG&C. I had many discussions with her about why I didn't want the role and what I did want and it was around March or April 2006 before I finally accepted her final offer and I started in the role in June 2006. For the other roles/jobs I had in the NHS see my CV attached, most of them had formal processes with relevant testing, interviews and independent assessors.

8. Had you worked with any of your QEUH/RHC project team colleagues, estates colleagues, or other NHSGGC colleagues prior your role(s) at QEUH/RHC? If so, who had you worked with before this current role? When did you work with this/these colleague(s)? What role were you in when you worked with this/these colleague(s)? How long were you colleagues in this/these previous role(s)?

A. As Project Director of NSGH I knew a number of the staff in the project team from being an employee of the same Health Board(s) during my career but as I remember it I only worked previously with one of the project team and that was Morgan Jamieson, Project Medical Director. Morgan was Acting CEO for Yorkhill NHS Trust for a period and before that a Paediatric Cardiac Surgeon at Yorkhill when I was working at Yorkhill NHS Trust as Operations Director between 1990 and 2000.

Specific role(s) at QEUH/ RHC

9. Confirm the role(s) that you held at NHSGGC?

A. Project Director, NSGH project and for other roles earlier in my career prior to 2000 refer to my (See CV – Appendix C)

10. Describe how you came to be appointed to these role(s)?

A. Refer answer 7 for role Project Director NSGH.

11. What previous working relationships, if any, did you have with those who selected you?

A. For Project Director NSGH role only one, Catriona Smith who was the lead HR manager for the transition programme team for staff moving from Argyll & Clyde Health Board to Glasgow & Highland Health Boards. She had previously worked for me as my HR manager when I was Divisional Director at Inverclyde Royal Hospital (2005/6).

12. Describe your role and responsibilities (including day to day) at QEUH/RHC from when you started at QEUH/RHC until you left on 31st July 2013.

A. My Role as Project Director NSGH was an administrative role managing and coordinating the processes of the work to be carried out. There was a Job Description for this role and suggest it would it might be helpful for the inquiry if this was obtained from NHS GGC, however here are some of the details: Directing and coordinating work; managing financial resources revenue and capital; managing staff personal and working resources; overseeing the council planning process in addressing all aspects of such a large project; managing/coordinating and working alongside professional advisory consultants; working with the contractor and their teams; reporting on progress and actioning feedback and ensuring programmes of the work were being completed within each of the phases of the work programmes.

I had a role to direct and enable a very substantial amount of NSGH project enabling works to be completed prior to the start of the project on site and also during the building of the project. Taking instruction from Health Board senior officers. Ensuring all works were managed on time and cost. Public face of

project, i.e. many meetings with the community stakeholders, politicians and other agencies. Ensuring the many stakeholders (external & internal) were involved. Liaison with council planning, Scottish Government, Architect & Design Scotland, Scottish Enterprise, Scottish Ambulance Service, Health Facilities Scotland, Health Protection Scotland, Scottish Water, Scottish Power and other external interested parties, property developers etc. This involved regular meetings with many groups and people from inside and outside the Health Board. Writing reports, doing analysis, managing my staff group, recruiting, constantly reviewing project options and financial information. Working alongside all senior contractor staff and their sub-contractors and their specialist advisors. Ensuring the phases of work were being progressed to the Health Boards requirements including planning the development, procurement, evaluation, design, construction, commissioning and migration all supported with internal and external resources.

There were many different activities I was involved with on a daily basis with the contractor team(s) with involvement on many aspects of the works. There was a very clear remit from the Government, Health Board senior management and their advisors (S&W, EY, PUK) that the project team were to ensure this project would not be an adversarial relationship with a contractor team because of the scale, complexity and cost as had happened in the previous projects and it was part of my role to endeavour to ensure a close partnership arrangement between the Health Board and the contractor(s) was enabled and maintained. I think there may be reference to this in a special comment/paragraph in the building contract. To that extent the contractor and the client worked out of the same site accommodation.

There was very clear instruction from the Scottish Government, Health Board and senior advisors to allow the contractor’s team to take the sole lead on design and design risk, to let them innovate, let them take the risk and do not lead them or tell them what to do, very much the same as a PFI contract. This was evidenced from work carried out by EY to assess the market conditions (market sounding exercise) prior to procurement and to test the interest from the market to participate in such a large complex project and to obtain guidance

from the construction sector of what they thought would make a successful and viable procurement. This was probably one of the reasons why the level of design at procurement stage was only RIBA stage B/C for the hospitals and RIBA D stage for the new Lab facilities. Initial intention mainly advised by Peter Moir and the project team wanted to take the design further during the tender process but that was changed after the market sounding exercise. This is also when it was decided the project would be an NEC contract, that there would be a competitive dialogue process and that there would be a Professional Services Contract Supervisor role required and fulfilled by Capita, and hence, no shadow design team as previously planned. The project team requested that we keep on board Wallace Whittle as M&E advisors with a financial allowance being requested and approved for the service.

13. To what extent, if any, did your role change over time at QEUH/RHC? If so, why?

A. My role at NSGH never changed, it was the phases of the work/project that changed, for example from planning a project and taking it to market to then being involved as it was being designed and constructed, these were just different phases of work to be progressed and I was responsible for managing the processes, therefore, my role didn't change.

14. Where was your role in the hierarchy of the organisational structure at QEUH/RHC?

A. As Project Director NSGH I was second lead officer for the project and Helen Byrne, Director of Acute Services Strategy, Planning & Implementation was the lead officer who I reported directly. Helen Byrne reported directly to the CEO Tom Divers NHS GGC and was a Board level director.

15. Who did you report to, (name(s) and role(s))

A. Helen Byrne. Director of Acute Services Strategy, Planning & Implementation.

16. Describe your relationship with your supervisor in this role.

A. My relationship with Helen was as a direct report to her for the NSGH project including associated works and we worked very closely together. Helen was interested in detail and hence, I briefed her in detail in all matters as she required.

17. Please tell us which staff reported to you, and who you were responsible for in this role, and your relationship with them.

A. From memory full Project Team. Peter Moir Deputy Project Director, Shiona Frew Project Administrator (originally my PA), Morgan Jamieson Project Medical Director Paediatrics, Jane Peutrell Project Medical Director Paediatrics, Stephen Gallagher Project Medical Director Adult Hospital, Heather Griffin Adult Hospital Project Manager, Mairi McLeod Children's Project Manager, Fiona McCluskey Project Nurse, Jackie Barony/Stewart Infection Control advisor replaced Annette Rankine, Karen Connolly FM lead, Hugh McDerment Project Manager (including enabling works), Frances Wrath Project Manager (ASR) all infrastructure and building services and Medical equipment lead Tony Coccozo finance support, Mark McAllister Community Engagement Manager, Eleanor McColl IT Project Manager, Mark Grieg IT Support, Frank Carnie IT networks, Alan Rose Evaluation Team, Ian Powrie Estates lead, John McGarrity Bio-Engineering lead, Anna Daley Project Manager other supporting projects such as new Teaching and Learning Centre. Sam Sudesse Project manager (enabling works) Alastair Smith (Technical Manager electrical), Gibby Donnelly (Fire Officer), Liane McGrath Labs Project Administrator, Allson Hirst and Carrol Craig Admin Staff.

My relationship was as their overall manager to help, support and challenge them to perform the roles they had in the project team. We met very regularly in generally open plan accommodation both formally and informally. We were a reasonably close working group.

Like any team there were ups and downs but generally it was a good team in the sense most people got on with each other and everyone generally pulling in the same direction. I also had a number of professional advisors who worked with me and my team to support the project led by C&B and also BMJ Architects. My direct reports from above were Morgan Jamison, Jane Peutrell, Stehpen Gallacher, Peter Moir, Heather Griffin, Mairi McLeod, Fiona McCluskey.

18. How was communication between you and your colleagues? What communication issues, if any, arose?

A. We worked in a mainly open plan environment so communication was frequent between all members of the team and informal on many occasions. Formal communication between myself and the team were mainly via the weekly project meeting, which were held every week for the duration of the project until I retired. Communications occurred at many other different formal and informal meetings with other people and groups and on the telephone and electronic systems. I called many meetings with all or relevant members of my team to discuss issues that arose on a daily basis. Don’t recall any significant issues with communication.

19. How did you keep a record of work delegated?

A. Mainly via actions set at weekly project meeting and recorded or from other meetings of which there were many or from individual actions set by me to the team members which may be recorded on my computer or diary or just via conversation in the office or telephone (not recorded) or by one of my admin staff. Communications with individual team members were probably different depending on the phase of the project we were on and the issue in question. A record of all ongoing work with Brookfield including all workflows was maintained on their Aconnex system.

20. How was delegated work supervised?

A. Generally via the project meeting or directly from me via my deputy to individuals or groups of individuals or from actions falling out from the many other meetings myself and the project team attended dependent on the phase of the project we were in.

21. Which other QEUH/RHC teams or departments, if any, did you work closely with?

A. As Project Director NSGH I worked most closely with my immediate superior Helen Byrne and my deputy Peter Moir, and my finance manager Alan McCubben, professional advisors and most of the lead directors who led the services that would be transferring into the new hospitals and labs. Working arrangements were the same as you would find in any other similar environment. For example, I had communications and meetings with Board directors, some non-exec directors and depending on the phase of work we were in or the issue at the time. For example I might have a closer relationship with the Labs director and her staff if the new laboratory was at a critical point or difficult issues to address, or if I was dealing with the helipad design progress regarding its functional operation I would be working closely with the Emergency Department Director and staff or IT Director and staff it was an IT issue. I probably dealt with most departments in all 5 hospitals affected by the NSGH project in some way or other for example, medics, nursing, labs, finance, estates, infection control, facilities, IT, physics, bio-engineering fire procurement etc.

22. Please describe your working relationship with these QEUH/RHC teams or departments.

A. If the question means all departments within NHS GG&C Health Board then as mentioned in answer 21 above, I probably dealt with most of them via their directors, senior staff or senior clinicians. I would meet some staff personally or meet staff in smaller groups or meet staff in presentation mode with larger groups. For example, I would meet regularly with the senior leadership team for the children's Hospital which included directors, clinicians, charity personnel, managers and other staff members and I attended the Paediatric Medical Staff

Association on occasions. Also, I met with a range of hospital functions who were stakeholders in the new facilities including labs staff, infection control/microbiology, estates, facilities, IT, physics, bio-engineering, pharmacy, health planners, finance many of the clinical specialities of which there are over 35 each in paediatric and adult services.

I met with other Scottish Health Board senior staff and clinicians who were going to have services in the new hospital and labs.

23. What concerns, if any, did you have about any members of staff? If so, please describe these concerns. What action, if any, did you take in relation to these concerns?

A. I don't recall having any concerns about any member of staff other than the usual day to day issues that arise in any industry or organisation, either at project level, Health Board and government level that were out of the norm and I didn't raise any staff issues with my superiors that I can remember.

24. What concerns, if any, were ever raised about management/ managers? If so, please describe these concerns. What action, if any, did you take in relation to these concerns?

A. I do not recall anyone raising issues formally about management or managers. I had the usual team personnel issues I have had in every team I have ever managed throughout my career.

Site Selection

25. In respect of the site selection process please confirm the following:

a) Describe your involvement in the site selection process in respect of QEUH/RHC.

A. I don't recall having a huge involvement as I think the site had already been selected or the process was coming to an end when I started as project director. If the Inquiry has any specific information to help my memory after such a long time, please provide. I mostly remember working on options for the chosen site i.e. the Southern General Hospital.

b) Describe the risk assessments, if any, that were carried out? What was the outcome?

A. Don't remember.

c) What consideration, if any, was there in respect of proximity to Sheildhall Sewage Treatment Works?

A. I am sure it would have been considered by the Board senior officers but don't have the detail. I don't recall it being a huge issue at the many meetings I attended, it was probably mentioned a couple of times at both public and NHS forums. I am sure the Board senior officers informed us that the process at Shiledhall Sewage Works had changed or was going to change from a sewage treatment plant to a transfer station reducing the potential for odours affecting the hospital.

d) What do you recall being discussed at the meetings you attended? What evidence, if any, did you see that procedures had changed? Did you follow this up?

A. Specifically regarding Shieldhall Sewage Works, there were a couple of members of the public asking mainly about considering other sites away from the sewage plant because they thought the smell wasn't pleasant. This was asked by a very small number of people at public meetings and maybe the odd staff member raising this as query. My CEO informed me that this plant was or would change to a transfer plant, hence I had no further interest in it.

e) What consideration, if any, was there in respect of the Shieldhall Recycling Centre?

A. I don't remember any discussion on this other that potentially extending the campus in this direction in the future to accommodate research in life sciences.

f) What concerns, if any, did you have regarding site selection?

A. I don't remember this being a major factor in any discussions I heard and I had no concerns.

g) Whilst you do not recall this being a major factor in any discussions you heard, what concerns if any, concerns did you have?

A. I did not have any concerns about site selection.

h) What action, if any, did you take in respect of such concerns and what was the outcome?

A. I was not aware I had any actions to take, this (i.e. the site selection was driven by the Boards most senior officers in conjunction with government officials) and they would determine any actions and I don't recall being asked to do anything.

Procurement

26. Describe the funding PFI changes, your involvement, why the changes were made, who signed off on the changes and what the escalation process was in respect of the Board authorising these changes.

A. When I started on the project in 2006 it was to be a PFI procurement. Everything was geared towards this and Ernst & Young (EY) had previously been appointed to take this forward as advisors to the Board bearing in mind the significant financial, operational and delivery complexities of this type of project funding and process. This was during a Labour administration in Scotland and the OBC was being compiled to support the PFI procurement.

In 2007 the SNP won the Scottish Parliamentary Election. From that point my seniors advised me and other staff that the project was now on hold until the new SNP administration considered it. Sometime later that year or early 2008 we were advised by senior management that the project could go ahead to OBC and potentially FBC as long as it wasn't going to be any kind of PFI procurement. We were told that the new SNP administration would not accept PFI and therefore, the project had to be publicly funded (if affordable) and the new OBC would need to be amended on that basis.

I was told at a number of senior meetings with managers that this was a government decision/instruction and non-negotiable. I had no involvement in this decision and I presume the Boards CEO at the time was the senior officer to propose approval to the Board.

a) Was an explanation given as to why it could not be any kind of PFI project? What was the rationale given for this decision at the senior meetings you attended? Why did it need to be publicly funded?

A. It was a direct instruction. I was told that the SNP government would not consider PFI as a way of delivering new infrastructure projects. The rationale, I think this was part of their manifesto pre-election promises although I can't remember if it was made into a formal policy or not and subsequently as we know they came up with their own PFI version.

27. Were the risks and the resource implications of changing the procurement model from PFI to traditional (design and build) adequately assessed, in particular:

(i) the impact on commissioning.

(ii) the impact on independent validation; and

(iii) ensuring sufficient resources to manage and maintain the hospital post-handover?

A. I can't remember but as I stated in my response above my information was this was an instruction to be adhered to by the Board, it wasn't a comparison between the two types of procurement. However, I think there were papers produced setting out the Pros & Cons of the government procurement decision and presented to the GGC Board by the Boards advisors EY, S&W and Board Senior Managers.

There was a discussion about endeavouring to try and procure a longer term defects liability period (talked about seven years at one time) in any future public funded construction contract instead of the normal one-year period which at that time was pretty much the standard, in order to try and mitigate life cycle risk (as the client would get in a PFI) after handover. This didn't come to fruition because when EY carried out the market sounding analysis on behalf of the Board with selected main contractors, the feedback was that this was not

something they would consider signing up to in a capital funded building contract and a potential showstopper to the contractors bidding at all.

Subsequently, however, a two year defects liability period was achieved in the contract with Brookfield. In terms of the three sub questions above (I) and (ii) I am not qualified to say as I haven't done enough PFI contracts to have the experience to give an opinion and (iii) in PFI there is a resource plan agreed by all parties which is usually not changed and adequate to meet the needs of the facility throughout the concession period (usually 30 years), whereas, in a capital funded project the resourcing levels can be under pressure at any time due the changing financial circumstances within the NHS and government.

(iv) What are the life cycle risk factors that you would get with a PFI? Do you recall why a seven year defects period was initially sought?

A. From my knowledge, PFI projects would reduce the potential risk of a negative impact on resourcing future maintenance and lifecycle works because it has the funding for both built into the contractual resource plan at the beginning of the contract and hence, not being affected by government funding pressure/cuts further down the line, whereas non-PFI projects (capital funded) can be and often are affected, that's why PFI projects seem far more expensive. The seven year defects period was discussed in planning meetings with E&Y, S&W, C&B and Board senior officers as a potential way of mitigating some of the loss of opportunity of PFI, i.e. there could be a seven year's insurance/resourcing cover period by the contractor where the contractor was taking all the building structure and building services risks with obvious benefits to the Board. In addition, the Board would use this as an incentive to the contractor to drive higher quality in construction and at the same time provide guaranteed costs for maintaining the building at least for an extended period of time. This was tested by EY in discussion with contractors during the market sounding exercise and the clear feedback was that the contractors had no interest in such a commitment and indeed could drive them away from bidding the project altogether.

Employer's Requirements

28. Describe your involvement, if any, in the preparation of the Employer's Requirements (ERs).

A. The ER's were the responsibility of the Technical Advisors (TA's) consultants i.e. Currie & Brown and their team as part of their appointment. They set out a framework of the type of information needed and a process of how the ER's would be compiled, using their previous professional knowledge and experience. This involved many people and many meetings from all areas of the Health Board and other stakeholders and along with many other people I attended some of these meetings as did other members of the project team and other Board officers. The project team would have organised these meetings and made the appropriate arrangements for people to attend.

a) Who was responsible for providing the requirements for the Clinical Output Specifications and who approved the COS for inclusion in the ERs?

A. The COS process was overseen by the TA's and organised by members of the project team, led by Heather Griffin (Adult Hospital), Mairi McLeod (Children's Hospital), supported by Frances Wrath (ASR Project Manager), Morgan Jamieson (Project Paediatric Medical Director), Annette Rankine (IPC) with a significant input from the TA's Health Planners Buchan Associates and the previous health planners, Directions. There were also other Board staff involved including Estates, IT, bio-engineering, physics, FM etc. The data in the Clinical Outcome Specification was the responsibility of the user groups and their management teams. It was their role to input the COS's and provide the information required about their service needs, directed and supported by Buchan Associates and the other members of the TA team. Heather Griffin and Mairi McLeod led the process on behalf of the project team mainly supported by Frances Wrath, Fiona McCluskey and Annette Rankine and it was their responsibility to ensure all parties were in agreement with the COS content. I think there were COS' s complied before I started in 2006 by the previous TA team (Davis Langdon) but I am not sure to what extent that information was retained in any of the signed off COS's.

The role of the project team and the TA's was to meet with each of the clinical departments/specialties on a number of occasions and develop the COS for

each clinical area. Both the Adult and Children's Hospitals had an internal structure to approve the COS's to be carried forward to the ER's and design development. The Adult Hospital had a Clinical Advisory Group and the Children' s Hospital as I remember it had a Clinical Advisory Group and Project Steering Group (the senior members of Children's Services in Glasgow) who reviewed and approved them.

b) Would the COS have involved details such as air changes per hour? Who would have been involved in this aspect of the COS? Who would have been responsible for ensuring compliance with SHTM/HTM and relevant guidance?

A. I do not remember the detail in the COS's it is too long ago. I imagine the inquiry will have received these from the Health Board as part of your Section 21 Notice. As I said the TA team supported the COS process and any technical issues raised would be addressed by them.

The COS process was overseen by the TA's and inputted from a number of sources like project team members which included clinicians and infection control staff and managers (including technical managers) who had worked on other big projects supporting the clinical user groups (who may also have had IPC/ICD personnel in attendance) of which I think there were around about 80 groups. The Health Board will hold information on all who attended these sessions because they were recorded.

Any compliance issues in COS's development would be advised/managed by the TA's, if indeed COS's went to that level of detail.

c) Who was responsible for confirming what the relevant NHS Guidance was for the project

A. Technical Advisors.

d) How did sustainability and energy targets impact on the design

A. There were specific targets set by the Health Board /Government on energy and CO2 emissions and we had a directive to achieve both them and a BREEAM Excellent rating and this was considered during the design process.

e) What impact, if any, did this have on the design process?

A. I am not sure it had any impact on design process other than more meetings and more work because it was a very detailed process with lots of participants and many more meetings.

f) Describe your involvement and understanding, if any, in the removal of the maximum temperature variant? (please refer to Bundle 17, Document No.26, Page 1063) Why was the decision taken and by whom? What risk assessments, if any, were taken prior to making this decision? What was the impact, if any, in removing the maximum temperature variant?

A. This was an instruction to change the max temp to 26 C from 28 C from the Facilities Director to Currie & Brown to be included in the ER's after the process had started I think, following on from their experience of the two new hospitals (Victoria & Stobhill) just completed where they had encountered overheating with the higher temperature threshold and made the change to the Boards requirements to improve patient comfort levels.

The Board employed TA's to support design and it is their responsibility to carry out any necessary activities before recommending any solutions to the client. As I recall this impacted the general ventilation design and drove the solution of chilled beams along with a sealed building (suited infection control requirements) to achieve an acceptable level of comfort in the general single rooms with the max temperature limit. The TA assessment of the vent strategy advised that this was about comfort control and that as they considered all requirements in the ER's this was the most reasonable solution to achieve the Board's requirements.

g) What was your involvement, if any? How were you involved in this decision and implementation of this decision, if at all? Were you involved in groups which discussed this decision? Were IPC involved?

A This was communicated to the project team and myself as I remember, from Currie & Brown team who were lead advisors on the two new hospitals just built. This was an instruction to Currie & Brown and it was included in ER's. I do not recall being asked my opinion and I don't know of any other member of the project team who was.

h) Describe your involvement and understanding, if any, in the decision to use chilled beams. Why was the decision taken and by whom? What risk assessments, if any, were taken prior to making this decision? What investigation was made into their use in healthcare settings? What was the impact, if any, in using chilled beams?

A. Chilled beams were presented in the ER's by our TA's to be considered by bidders in providing heating/cooling solution. I also understand that they were allowable within# the SHTM/HTM guidance. They were proposed by more than one bidder as I recall as the solution to meet the Boards requirements with the new maximum temperature. During the ER process and the bidder selection process (including competitive dialogue) and the preferred bidder stage which involved a lot of people, I never heard anyone at any time raise any issues with chilled beams although I personally had no experience of using them, just like many other aspects of the building and building systems and I took my advice from the experts that the Board employed. The TA advised that they were allowed by SHTM/HTM at that time and no one in the TA team as I recall raised any negative issues about chilled beams. The TA's would need to advise about any risk assessment they carried out prior to recommending chilled beams but as they were allowed in the guidance I wouldn't be surprised if they didn't.

i) What involvement if any did IPC have in respect of this decision? As a member of the project team what responsibility, if any, did you have to ensure that IPC were involved in these decisions?

A. IPC were at the table with the other project team members involved during ER's, Competitive Dialogue, Evaluation, Preferred Bidder process up until stage 1 and 2 contract signing and beyond onto stage 2 design process up until stage 3 and 3a contract signing.

j) Who provided the specification for environmental data relating to air change rates, pressure differentials and filter requirements?

A. The TA's in the ERs and ADB sheets. Then responded to by the bidders and I think ZBP the Hospital designers provided an Environmental Matrix for all areas, this was Brookfield's 's responsibility. Subsequently then shared/discussed in the Reviewable Design Data (RDD)/ Room Data Sheets (RDS) process by the main contractor and team.

k) What role, if any, did the project team have?

A. The project team were involved in ER's and RDD process to endeavour to provide as much information and support to the contractor and their team to advised them of the functional requirements of the ER's. But we were very much led by our TA's and Capita, Project Supervisors and the Brookfield and ZBP on all technical issues. It was Brookfield's responsibility to deliver all technical requirements compliance.

l) Who was responsible for HAI-SCRIBE assessment regarding the proposed site development, design and planning and new construction?

A. Annette Rankin led on this and subsequently Jackie Stewart, who were the IPC support to the project team.

m) What responsibility, if any, did the project team have to ensure IPC involvement and engagement?

A. The Board senior offices set up the structure and the process of IPC involvement not the project team. IPC were an integral part of the project team like all other functional members (IT, Physics, Finance, FM, Estates etc.) who advised the project on, or gave advice on, or obtained advice on the issues the project was addressing/facing at the time. Infection control were also part of the whole process at certain times. The Board set up the project structure (including the IPC arrangement) and it was reviewed by organisations like the Scottish Government via the Gateway Review process (think in my time there were 5 Gateway Reviews and absolutely nothing negative about structure or process was reported), Partnership UK (on behalf of the UK & Scottish Governments worked along with the Board senior staff up until tender stage), PWC during the contract, carried out risk assessments on a number of occasions (10 day duration), Atkins carried out a short review process before procurement and the Boards senior team along with senior advisors E&Y, S&W and C&B all had many discussions about every aspect of the project structure and supporting processes and any advice was taken on board with no outstanding issues as I recall! Regarding IPC involvement, there was an email from Tom Walsh, Infection Control Manager to Heather Griffin advising he is satisfied with infection control input up until the tender process and he was reassured by plans for infection control input for the subsequent stages of the project. Also, the previous two Hospital projects just completed in 2009 i.e. the Victoria and Stobhill to my knowledge did not have an IPC person on the project team and I think that IPC and ICD involvement was via the Board's Medical Director, separate from the Project Director i.e. separate from the project.

n) Steering Group Minute 27th July 2010. Why was it high importance?

A. The minute states why it was of “high importance” i.e. it is regarding work required for the Government Gateway Review and there must have been a Government Gateway Review coming up (as I remember probably one before Full Business Case) and we were probably needing to do more work in this area as opposed to other areas of work which were probably progressed more. As I recall there was a lot of process and work involved in BREEAM and it took time, hence trying to move it on.

o) Describe my discussions with Susan Logan and her involvement in the project. Was further investment provided to increase to BREEAN Excellent?

A. Susan Logan was brought into the project around 2007/8, I think, as part of the work the Board had started some years back (I think before my time) with the Carbon Trust. She followed on from another person who was supplied by the Carbon Trust providing advice on energy and sustainability matters etc. but I cannot recall the name. Peter Moir recruited Susan on behalf of the Board to advise on all things energy, carbon reduction and sustainability including BREEAM. As I recall she was the BREEAM Assessor on the Laboratory project and the BREEAM Advisor on the Hospitals project. She inputted to design where it affected energy and where it could or would impact energy consumption, CO2 output and sustainability and as such had many meetings with the project team, the contractor and their design team regarding these issues. I recall, she also inputted to the exemplar design and participated in competitive dialogue, the evaluation process and compiled a BREEAM tracker for the project.

She worked directly for Peter Moir, (usually via Hugh McDerment, project manager) who she reported to on a daily basis in the project team but I had numerous discussions with her during my time all based on issues as described above. I cannot go into any more detail than this because of the time that has passed but if the inquiry has any specific question then please let me know.

She was an advocate of natural ventilation and tried her upmost to convince people that was the way forward in building design and the project team including myself were supportive of that but as I recall she never managed to get infection control staff on-board with her thinking.

The target was always BREEAM Excellent so no there was no further investment to raise it up to BREEAM Excellent.

p) Describe your understanding of the importance of BREEAM, balance against the importance of ensuring infection prevention and control. Was BREEAM ever prioritised against infection control and if so why and by whom.

A. BREEAM is an assessment used to measure the sustainability performance of buildings. This involves energy and carbon emissions reduction (decarbonisation) which is clearly part of the sustainability of the whole environment. The Scottish Government along with local authorities and universities in Scotland have declared a climate emergency in the past, therefore, there clearly is an importance to this agenda. Infection control is very important, that's why we were probably the first project in UK that I know of who included an infection control specialist on the project team. So in my opinion infection control was taken very seriously indeed by all health staff and at no time can I recall myself or anyone else associated with the project ever prioritising safety over BREEAM.

Ventilation Derogation

29. Explain your understanding of the ventilation design strategy contained in the Contractor's Tender Return Submission (11 September 2009) Please refer to Bundle 18 Volume 1, Document 8, Page 205. Was the ventilation system to be a mixed mode ventilation system (dependent on a non-sealed building) or a mechanical ventilation system (dependent on a sealed building)?

A. Firstly, I don't see any information in the document reference provided regarding mixed mode vent or mechanical ventilation. However, from memory, I think at the new max temp (26 C) which I think was a changed during the ER process and determined that it should be a sealed building (if this hadn't changed I think it could have been mixed-mode although that may have caused other issues such as greater infection risk). Susan Logan's (Boards energy advisor) preferred option was natural ventilation, acceptable in guidance but with absolutely no guarantees regarding air movement. She can also confirm that a sealed building was the preferred choice of infection control anyway

However, there was still an ongoing discussion about potentially introducing mixed mode ventilation right up until sometime in 2010, because there was a chance that certain areas of the hospitals could have mixed mode and potentially still in general single rooms. But in 2010 it was closed out after a meeting with Penelope Reading where it was advised and confirmed, I think by Wallace Whittle, that with some form of openings in the building to provide natural ventilation in the single bed rooms, that cross contamination between the rooms could not be ruled out, hence, a sealed building was the only way forward. So Wallace Whittle's advice was accepted by Penelope Reading that if we accepted a mixed mode with non-sealed building there was a chance of infection cross contamination.

30. Was the design and/or specification of the ventilation system as recorded in the Building Contract, in particular in the M&E Clarification Log (please refer to **Bundle 16, Document No. 23, Page 1662**) compliant with NHS Guidance?

A. The Board team were advised by our TA team member (Wallace Whittle) that the solution for general single rooms did not comply directly with NHS guidance (but complied with Scottish Building Regulations and CIBSE codes as referenced in ER's) because of the change in Max temperature, however, they (TA's) advised that in terms of achieving as many of the Boards requirements as possible this was the best and most reasonable solution for this type of general single room.

a) What IPC involvement was there, if any, in reaching the conclusion that this was about comfort not infection prevention and control? What assurances, if any, were given to the Board in respect of infection prevention and controls views on this matter?

A. The design summary log provided by the Inquiry, reference 20091204designsummary **(Bundle 43, Volume 2, Document 21, Page 308 at Page 5)** (I think this is an internal document between TA advisor teams and do not think it was received by the project team) is very helpful in providing a bit of clarity for me after all this time as it indicates that the derogation would need infection control review as noted by the TA team. This then would be an action for the TA's and taken forward and progressed by Mark Baird who was responsible for progressing all actions in all the logs. He would need to provide the information on who he actually spoke to in this regard apart from the IPC in the project team. The design summary I think is quite an early document after bid evaluation and before the start of the M&E logs and following on from this action Mark and his team would have progressed this action to conclusion. As far as I am aware, during preferred bidder stage, staff from the project team including IPC, medical and nursing staff continued to work on this with the TA's up to stage 1 and 2 contract signing (December 2009) finally agreeing general single rooms at 40 L/s (as referenced in Bundle 16 Doc 23 Page 1662) which for these rooms I understand is around 3 air changes per hour. There is an email in the system (I do not have it) from Douglas Ross to EY and the senior project

accountant confirming that raising the air changes to 40L/s had no additional cost.

I think David Hall from C&B led this part of the work under instruction from Mark Baird with project team members. It was then concluded by the TA team that this was the best and most reasonable solution to meet the Boards requirements and included in the M&E logs forming part of the contract.

Subsequently, during stage 2 design process (Appendix K, 2010 pre stage 3 contract signing) contact between project team members, John Hood and Peter Hoffman occurred while addressing another similar issue which confirmed there wasn't an issue with infection control risk by reducing the 6 air change rate to 2.5 (there is an email to this effect) and indeed he confirmed the same in his oral evidence to the inquiry. On the email chain, I refer, it can be seen that those involved in the discussion other than myself (copied in for information) are all clinical staff, Fiona McCluskey Project Nurse, Jackie Stewart Project IPC, Craig Williams Director of Microbiological Services, Tom Walsh, Lead Infection Control Manager, and Sandra McNamee, Assistant Director of Nursing Infection Control, clearly showing that IPC/ICD were involved and had knowledge regarding air change rates in the design. However, if Professor Hoffman had advised there was a risk by reducing air changes then the TA's would have had to rethink their decision on the ventilation design, which would have been accommodated into the project to mitigate any risk.

Also, during the Inquiry Hearings, the Board's current Director of Property give evidence that the hospital had theatre quality air throughout and no issues with 3 ACH's, indeed I am sure he stated when questioned that after nine years since the QEUH opened the Board had not carried out any risk assessment on these general single rooms as they did not see them as a risk to patients. He also states in his evidence that other acute hospitals in the Board area had less than 3 air changes per hour and didn't seem concerned.

Also, general single rooms in the New Children's Hospital in Edinburgh, completed after Glasgow Children's Hospital, can only guarantee 4 Air Changes as is the same with the general single rooms in the New Children's Hospital in Dublin, currently under construction

The Board's response to the Inquiry's Provisional Position Paper 5 on my reading, didn't seem to show any great concern about lower air rates in general single rooms (non-Critical) with regard to increased infections.

b) If not, please explain:

(i) Why this design was proposed; and

(ii) Why this design as accepted.

(iii) What role, if any, BREEAM played in the acceptance of this design.

A. As stated above it met as many of the Board's requirements as possible and supported the new max temp change instruction (taking account that this was a hospital with more or less all single rooms (described in SFN 30 as the optimum for infection prevention and control) and recommended by our TA's as the best and most reasonable solution and no risk to patients was raised to me or any member of the project team as far as I am aware. I don't think BREEAM played a direct role in the decision but obviously BREEAM is about reducing carbon and energy efficiency and apportions credits to these areas.

c) If you are of the view that it was compliant, please explain why, with particular reference to SHTM 03-01 2009 (Ventilation Design) Please refer to **Bundle, 16 Document No. 5, Page 342.**

A. N/A

31 The Inquiry is aware of the agreed ventilation derogation recorded in the M&E Clarification Log. Please refer to **Bundle 16, Document No. 23, Page 166**.

a) What was the scope of the agreed ventilation derogation recorded in the M&E Clarification Log?

A. General single rooms only. Stated in Clarification log and in M&E logs and also in ZBP Vent Strategy.

b) When did you first become aware of it and how?

A. Through the evaluation and preferred bidder process leading up to the signing of stage 1 and stage 2 of the contract in December 2009. It was recorded (hence discussed) via the Clarification Logs process which was used as a method for recording actions and decisions from the tender evaluation of the bids as agreed between TA's and Board. Mark Baird led this process from the TA team and he went through these logs on a number of occasions with a wide variety of people, indicating issues and solutions.

c) Was the agreed ventilation derogation restricted to general wards only?

A. Yes.

d) If so, how is this interpretation evidenced within the documentation (such as the M&E Clarification Log) and where is the specification located for areas that required specialist ventilation and isolation rooms?

A. My memory of the process is that the derogation (Alternative Design Solution) is captured in the Clarification Logs as general rooms which identified air changes in each area of a general ward and then transferred onto more specific M&E Logs. It is referenced in the M&E logs (provided by the inquiry) as the rooms with 2.5 air changes and if you reference that back to the Clarification Logs which describe each type of room with their proposed air change rates, it clearly states these as being the general ward rooms. Also, its stated in the ZBP Vent Strategy that they are discussing general rooms. This was the contractor's proposal, not the client, so they were very well aware of what they themselves were proposing and shouldn't be confused about any other area. The specification for all other areas was to comply with NHS guidance as stated in the ER's and should be designed accordingly.

e) Who else from the GGC project Team and Board were aware of the Ventilation derogation?

A. The staff involved in the evaluation and preferred bidder process. Mark Baird (TA team) took those staff through the logs on a number of occasions. I think as I recall, Mark Baird was instructed to share it and update key staff such as Facilities Director/Team and also I briefed my senior manager Helen Byrne regarding it and all other issues.

f) What action, if any, did you take to escalate your knowledge the derogation to the Board? If you did not take any action, why not?

A. As above, I gave my senior manager a detailed briefing on all issues form the evaluation and preferred bidder process and ongoing developments. Again this was presented as an environmental comfort issue and recommended by the TA's and Brookfield who were responsible for design.

g) Who presented this as an environmental comfort issue? What assurances did you personally seek from IPC to ensure this?

A. I have answered this in 30 a) above, i.e. the project team including IPC, nursing and medical staff were involved in discussion with the TA team led by David Hall and concluded this air change rate was acceptable taking account of all the Boards requirements, and that it was in regard to general single rooms only. And taking advice from our professional technical experts who posed the change and did not raise any negative issues about accepting this change.

h) How was the agreed ventilation derogation signed off by the Board?

A. Via the Logs process led by the TA's. And through the Appendix K RDD and RDS processes with the users in 2010 prior to stage 3 being approved.

i) How was this brought to the Board's attention (by whom)

A. Helen Byrne as a Board Director as previously stated if that is what you mean by the Board? Also, it was contained in the main contract documents available to senior Board officers.

j) Where, is anywhere, would there be paperwork recording the ventilation derogation approval

A. I Don't think there is a document specifically to the Board. However, I also don't think there is a Board derogation policy directing that the Board (as opposed to Board senior officers) must be informed of such issues. If SHTM or any other guidance set out a method to report such an issue, to the Health Board then, I would expect the Board's TA's to advise management accordingly, and action same, that was their role i.e. Technical Advisors to the Board. The contract documents contain the logs which were available to the Board's senior managers, it was recorded the logs. It was also discussed and agreed via the RDD/RDS process.

32 When did you first become aware of the ZBP Ventilation Strategy Paper dated on or around 15 December 2009? **Please refer to Bundle 16, Document No.21, Page 1657**

A. It is difficult to remember when I first saw the ZBP Ventilation Strategy Paper, it was an extremely busy time and so much information to consider and actions to complete personally but probably early 2010, although the work behind it had been ongoing since it was raised in the evaluation process and had more or less concluded in December 2009.

a) What action, if any, did you take when you became aware of this document and why? If you did not take any action please explain why not.

A. The document as I remember was the outcome of an ongoing process/discussions to address this ventilation derogation (as recorded in the Logs) led by our TA team along with Brookfield and ZBP from bid evaluation time to concluding their strategy around the end of 2009. My understanding is the TA team worked with Board staff including, FM, estates, clinical and infection control staff and operational mangers during the evaluation, preferred bidder via clarification log process that this was the most reasonable and acceptable solution for maintaining the comfort levels required for these general single rooms that met most of the Board's requirements. So personally I didn't take any action, I was extremely busy on many other issues and this was being manage by the Board TA's. I do not however, recall anyone raising any issues

to me about infection control from the TA's, ZBP or Board team. During this period the air change rate increased a bit from 2.5 air changes per hour to 40L/S and that was through discussion with the TA's and the Board team during the period up to December 2009. I was aware like others this was an ongoing process although I do not recall personally being involved in it. It was then taken into the stage 2 design process to be shared widely and discussed with staff in the design user groups via the project team staff and TA support and the contractor staff, especially ZBP. There were a number of design sessions with all clinical specialties (3 per user group I think) which included infection control staff who worked in the hospitals and no one to my knowledge raised any issues. My actions included briefing my senior manager and others about progress. Refer response to question 30 a) regarding Professor Hoffman comments during the design phase and before contract signing

b) Who put this the Board, when, what information was put to the Board? Was it not within your remit to put this information to the Board?

A. Again please see 31i.

My remit was to inform and report to my senior manager who was a Board Director. I briefed her in detail about all aspects of the project and her management team at times as well. I don't recall there being a formal paper to the Health Board and no one asking for one to be submitted. I also do not recall any Board policy on reporting derogations or any other technical issues beyond Board senior managers except when instructed to do so. The Board employed C&B as their professional technical advisors and as such they were responsible for fulfilling the professional tasks of meeting the Board's project and governance requirements, they had worked for the Board in the past on a number of occasions and knew how it operated.

c) What concerns if any did you have on reading this document?

A. Again it was described to us by TA's as the best acceptable way to achieve the Boards requirements and that it was explained to us that it was about comfort of the environment in general ward areas only and they raised no risk issues regarding infection control (if risks had been raised to me then I would have taken action) and that it was not to be implemented in critical clinical areas.

d) How the proposal meet the ER's if it did not meet the mandatory guidance (SHTM being one of which) as set out by the Board in the ER?

A. We were advised by the Boards TA's that this was the best way forward for the delivery of ER requirements, i.e. the best possible outcome taking everything into consideration.

e) Please refer to **Bundle 43, Volume 2, Document 21, Page 308**, at page 5. At page 5 of this document John Bushfield comments that 'This derogation

to the SHTM is not accepted. Any variation would require Board clinical infection control review.' Was infection control review ever carried out and if so, by whom? If review was not carried out by infection control, how, if at all, did the Board come to be satisfied that the proposed derogation should be accepted having regard to patient safety in light of non-compliance with SHTM?

A. Refer to answer in response 30 a

33 What risk assessments (if any), whether in compliance with the standards in HAI Scribe or otherwise, did GGC carry out or have carried out in respect of the change in the ventilation strategy that appears to follow the ZBP Ventilation Strategy Paper dated 15 December 2009? Please refer to **Bundle 16, Document No.21, Page 1657**

A. As stated previously the TA's, the Board's technical experts raised no risks as I recall in adopting this ZBP solution, they informed the project team that this was the most reasonable solution going forward taking all aspects of the ER's into consideration. Any risk assessment in accepting and recommending designs solutions is part of the TA's design scope of work before they recommend it to the client, hence, the Inquiry would need to discuss it with them for a more detailed explanation but again as previously stated they worked along with project team members to accept the ZBP solution. I would also assume that before any patients were admitted to these general ward areas IPC and ICD would review and assess they're suitability for clinical operation after testing, commissioning and validation (if indeed validation was appropriate for general rooms) and therefore, approve or not approve them for use as general clinical areas. This is what Dr Inkster did in June 2016 some eighteen months after practical completion of the works, why was it not done in 2015 when the building was handed over. I would expect infection control to provide that approval prior to patient occupation. During oral evidence the Board's Director of Property stated that the Board had not carried out a risk assessment on these rooms, indicating that they seemed satisfied with them.

a) Who from the TA advised there was no risk to patients, who would have assured them of this from IPC?

A. We had numerous meetings about many things in this period mostly if not all led by Mark Baird and he may have explained it to us or Whittle explained it, I can't remember as it is too long ago and very difficult to be specific about exactly who said what, there was a lot going on at that time and it is circa sixteen years ago.

b) Had checks been carried out prior to handover and areas been found not to have been approved, what in your view, would have happened?

A. If those checks were in critical clinical areas then rectification would have been necessary before occupation and, if they were in general areas i.e. non-critical single rooms then probably some form of work around would be sufficient. Subsequently however, we have seen the Health Minister stop occupation of a new Hospital facility because of ventilation issues in critical areas only!

34 Was the Ventilation Derogation recorded in the Full Business Case? Who was responsible for doing this? If not, why not? If you were aware that it had not been recorded in the Full Business Case please explain what action, if any, you took.

A. I am not able to answer this question, some 16 years later. Only comment I would make is I don't think there was much technical detail in the FBC as instructed via many meetings and discussions with other more senior colleagues. I am certain the inquiry will have access to the FBC to provide the answer.

a) Who was in charge at the time of the final business case presentation where the ventilation derogation was not mentioned? Why was it not mentioned at that time?

A. What presentation is being referred too? When asked to participate in this process I raised the issue about remembering things from all those years ago, I was advised by Wilma Johnston-Graham the inquiry team would help with memory issues by providing information to support their questioning, so it would be helpful if you could do that. I went to many meetings in my time as PD and many of them about FBC, can you be more specific or send me this presentation and I will respond?

35 Which senior IPC individual was responsible for signing off the departure from SMTH 03-01 in respect of the agreed ventilation derogation?

A. The Board did not have a senior IPC or ICD attached to the project, only senior IPC/ICD staff working in the service who could be asked their opinion via project team or others if required. From your questions thus far, I think there is an assumption, a misunderstanding by the inquiry team that IPC/ICD staff were fully involved or always involved in past capital projects as a normal part of project teams, this is just not the case in my experience. In the many, if not all capital projects I have previously been involved with or known about. Infection control specialists were not integral to project delivery and were probably asked at the outset of a project for their views on the proposed project just like the other hospital functions, they weren't attached or seconded to projects to approve or give advice on an ongoing basis as far as I am aware. However, the Board took the step to establish an IPC member of staff as part of the project team and this was the first time in my experience that this had occurred.

The project team operated a hub and spoke model where members were expected to relate issue to their departments/functions when required (e.g. IT, IPC, Physics, Bio-Engineering, FM, Estates, Pharmacy, Finance, Community Engagement etc.) and feedback questions or issues, I think this was similar to the process used for the newly completed Stobhill and Victoria Hospitals and indeed when I joined the project team it already had been set up with some of the same staff from those two projects. There were no IPC/ICD staff attached to the project team for the two hospitals just completed i.e. Victoria and Stobhill that I am aware of, in fact, my understanding is the Project Director on these two newly completed projects did not relate at all to IPC/ICD and this was a role carried out by the Board's Medical Director. After visiting a few projects in the UK prior to the procurement of the NSGH, again we found that we were the only project team who had a dedicated IPC member. The hub and spoke structure was to enable the project IPC representative and the other project team members to communicate with their own functions and on any of the issues being addressed at the time and feed Back concerns or otherwise and I do not recall getting any concerns fed back.

Tender and appointment of Main Contractor

36 Describe your involvement, if any, in respect of the selection process whereby Multiplex were selected as the preferred bidder.

A. I was a member of the Board group of staff who carried out the evaluation. I participated in a number of groups and joined in the scoring process to evaluate the tender bids. The process was developed by the TA's in discussion with financial advisors (EY) and legal advisors (S&W) and Board senior managers. The process was led by the TA's with the administration and organisation of the process carried out by the project team staff. There was a set format for scoring (part of the tender documents) presented with the tender bid information. I was a member of the evaluation team and we were led by C&B who managed the entire process. All information in the evaluation process was agreed by members of the Board's senior team and advisors EY & S&W prior to the procurement starting. The overall scoring mechanism was overseen by EY and selection was based on the Most Economically Advantageous Tender (MEAT).

a) Why were Multiplex awarded the contract following the competitive dialogue process? What distinguished Multiplex from the other bidders to make them the preferred bidder?

A. Brookfield were awarded the contract because they scored the highest in the evaluation process with the highest MEAT score. This was all overseen by EY and reported to the Board. All recorded and held by the Health Board.

Design and Construction and Role in the QEUH/RHC Project

37 Explain how the Clinical Output Specification (COS) for the design of the Wards was confirmed and signed off. In doing so describe the purpose of the clinical output specification, and your involvement.

A. The COS was a document completed by the clinical departments/specialties user groups in association with the TA team especially the Health Planners to describe their requirements for service in the new hospitals and members of the project team. I think some of the COSs may have been completed prior to me starting in 2006 by the first set of Health Planners (Directions) who were part of the Davis Langdon TA's (first set of TA's) because there was a schedule of accommodation compiled when I arrived and ongoing discussions about the clinical requirements, for example trying to determine the number of beds required in each hospital. As I recall the Adult and Children's Hospitals both had an internal approval process for the COSs which included clinicians and senior managers.

I think the Children's Hospital had a Clinical Advisory Group and Project Steering Group and the Adult Hospital had a Clinical Advisor Group. The process for adults was overseen by project team member Heather Griffin and I don't think a project doctor had been appointed tor adults at that time and for the children's it was overseen by Mairi McLeod and Project Medical Director Morgan Jamieson all supported by Frances Wrath from the project team along with Infection control and nursing and health planning support from TA's. I personally had very little involvement in the development of the COSs other than working with the Board team to try and determine the bed model's and to ensure the COSs were being completed when required to suit the project programme, which had very tight timescales

38 Explain the purpose of the guidance relied upon by the design team and why this was important.

A. To comply with mandatory or statutory regulation or to consider other guidance as appropriate for their design solutions. For guidance it is important to be considered on a project by project basis to achieve the best outcomes possible. On the national guidance documents, it clearly states this is general guidance only.

39 The Inquiry understands that designs and Room Data Sheets (RDS) were approved through the Reviewable Design Data (RDD) process. Describe your role, if any, in the RDD process and User Groups.

A. I think my main involvement was with some of the initial design pre RDD workshops where the contractor/designer set out their thoughts and strategies on the topics and we then agreed the general way ahead. After this, members of the project team, Capita (design compliance) and the contractor team would continue with the RDD process along with the users, with the overall programme overseen by Peter Moir and David Hall with the technical detail managed by Frances Wrath, supported Mairi McLeod, Heather Griffin, Jackie Stewart and Fiona McCluskey, Eleanor McColl, John McGarrity who were reviewing design and compliance in the RDD process. They would also have staff from the contractor Brookfield, Mercury, ZBP, Nightingales and Doig & Smith to explain any construction, design or cost issues. I did not have very much involvement in the user group meetings.

a) How were members selected to be part of a user group? What criteria was necessary to be selected as part of a user group?

A. If I remember it correctly, there were two lots of user group participants, i.e. pre and post tender offers. I think there was a core of staff across both sets but there were changes due to staff leaving, changing jobs etc. The service directors in conjunction with their clinical directors chose the members of these groups and communicated to senior management. I do not know what criteria they used for selection. Seemingly there had been problems in the past with such groups and hence, the service directors were instructed to ensure the membership was appropriate and controlled by them.

b) Confirm who attended the user groups meetings from IPC, Estates, Clinical and the GGC Project Team for the following areas: Ward 4B – QEUH; Ward 4C – QEUH; Level 5 – QEUH; Critical Care – QEUH; Ward 2A & 2B – RHC; PICU RHC – RHC; all Isolation rooms

A. I cannot after all this time remember the names of the staff who participated or attended in each group set out above outside the project team never mind breaking it down to functions and specialties, there were over 80 groups in total, the inquiry will need to obtain this information from the Health Board as it was all recorded. From project team however, there would have been (unless off work or doing something else), Frances Wrath, David Hall, Heather Griffin, Mairi McLeod, Annette Rankine or Jackie Stewart both infection control, Fiona McCluskey Nursing, Peter Moir (to some extent), Karen Connelly FM, Capita staff and other project team staff as required and other TA staff such as Wallace Whittle and Buchan's. Also, contractor staff from Brookfield, Mercury, ZBP and Nightingales, Doig and Smith Quantity Surveyors and their Health Planner, Tribal.

c) What steps, if any, were taken to ensure that an appropriately qualified source of IPC advice was an integral part of the Project Team?

A. We had a dedicated IPC nurse in the project team, this was the first time in a capital project this had occurred both in Glasgow Health Board and in Scotland, probably UK. The IPC member was supported by the IPC central team and the IPC and ICD's from both Adult and Children's Hospitals, especially when they met with the user groups. Also, IPC's and ICD's involved in the ER developments and COS development.

d) How often were user group meetings scheduled to review design proposals and agree the design with the user groups?

A. Probably about 3 times in 2010 prior to stage 3 being approved and contract signed.

e) Describe how the designs and the RDS approved to proceed to construction.

A. There were pre RDD workshops to discuss design philosophy and design strategy presented by Brookfield, ZBP, Nightingales and Mercury. From that we had the Reviewable Design Development process (RDD) whereby more detailed designs would be developed and passed to individuals for their review. This was managed via A, B, C, D status review process where members of the project team, led by Frances Wrath, David Hall and supported by Capita and Peter Moir, Mairi McLeod and Heather Griffin, Fiona McCluskey, Jackie Stewart along with service users and the contractor teams as mentioned above, the project team members would give the design in question a status of ABCD. The project team's role was limited to clinical and operational functionality i.e. the end user requirements and this did not include approving technical specifications or technical compliance which was always the responsibility of Brookfield and no one else as in the ER's. The process was along the lines of;

A = Ready for construction. This was a confirmation that the design looked functionally correct in line with discussions at pre RDD workshop and acknowledged the contractor could move forward to construct as it looked reasonable to achieve Boards requirements but it was the contractor, as in the building contract, no one else, who had full responsibility to ensure all compliance technically was achieved which would finally be confirmed at testing/commissioning/validation prior to acceptance by client via Capita on behalf of the Board.

B = Needs some minor alterations but generally can prepare to move to construction.

C = Needs more work before move to construction and revisited re ABCD.

D = Not acceptable and needs re-think.

This would all be processed through the Brookfield's Acconex system. All information including marked up drawings, and approval signatures, i.e. all the workflows information. The design approval procedure would be used to review and approve a range of deliverables such as clinical functionality at departmental and room level, finishes, colour schemes, materials and components etc. There was a form to be completed which recorded this.

f) Describe your involvement, if any, in the design and RDD process for the Schiehallion unit, PPVL and BMT rooms and PICU in the RHC

A. As I stated above, I might have been involved in the early pre RDD workshops developing the strategies but not usually in the RDD process detail.

g) Describe your involvement, if any, in the design and RDD process for the PPVL and BMT rooms in QEUH.

A. If referring to the changes to ward 4B I wasn't involved.

h) Describe your involvement in the design and RDD process for the spaces to house immunocompromised patients, Ward 4C, BMT Unit, Infectious Diseases and the Critical Care Unit in the QUEH.

A. With reference to the Adult Hospital. Infectious Disease Unit, there wasn't one in my time as I remember. Ward 4C, I don't recall this being a specialist ward, I think it was a general ward. The BMT Unit, (which is 4B) I wasn't involved. Critical Care Unit, as detailed above I was possibly involved at pre RDD workshops.

i) Describe your involvement in the design and RDD process for Isolation rooms.

A. Do you mean single isolation rooms or PPVL rooms? Also, do you mean Adult or Children's or both? Probably as above in (f) at pre RDD design workshops, but not anything to do with ward 4B BMT QEUH.

40 Please describe how the technical requirements (air change rates, pressure differentials and filter requirements) for the rooms were managed and approved, including your role and involvement.

A. Apart from the derogation of general single rooms as discussed above, all other requirements for air changes, pressure and filtration should be as stated in ER's i.e. in compliance with relevant guidance. Any deviation from the ER's would be notified and considered probably through the weekly Early Warning meetings or other meeting sessions with the contractor/designer, although I don't recall any.

The contractor is responsible for the compliance of all systems and Capita is responsible for confirming this to the Board at design and installation stage and/or at commissioning and validation stage. The process would be the RDD process as describe in 39e) above. I have already explained my involvement.

41 What guidance was considered in the design of wards to accommodate immunosuppressed patients, what processes were in place to ensure guidance compliance? Were there any changes to the design during the design and build, if so, please describe any such changes, describe the impact, if any, on guidance compliance, and described the sign off process for any such changes, your involvement and how any changes were communicated to the Board. What external advance, if any, was sought in respect of design changes?

A. These areas should be compliant with the ER's as they contained the user and technical requirements as compiled prior to procurement. Other than ward 4B (BMT change) in the adult hospital where I did not have any involvement in design, I don't remember any areas of the hospital deviating from the ER's. I do not recall anyone advising that specialist rooms areas or departments not compliant with guidance. Advice would be sought from Capita on compliance and the TA's on any proposed design change affecting compliance. With regard to the change process I suggest the Inquiry review the process used for BMT (ward 4B change) in the documents available which will identify the change process, otherwise I do not have that information to hand.

42 Who was responsible for confirming filtration and HEPA requirements and who approved this from the GGC Project Team?

A. I think in the ER's, the TA's would have identified filter usage as an output from meeting users and estates department personnel during the ER development process. There may have been changes during the design and build process but I don't remember if there were any changes. Also, it can be normal for either clients or contractors in building projects to be responsible for the supply and fitting of all or some filters and I cannot remember what our contract stated.

43 In respect of any derogation/ departures from guidance which senior IPC individual was responsible for signing this off?

A. As previously mentioned, there was no nominated senior ICP or ICD person for the project only the IPC nurse attached to the project as set up by the Board who if required would liaise with the relevant staff IPC/ICD.

44 Describe your involvement and understanding, if any, of the decision to remove carbon filers? What was the rationale behind this decision, who was involved and what advice, if any, was sought in reaching this decision?

A. It is hard to remember to remember the detail of individual items like this but I think they were removed. All information on this would be in the Early Warning meeting notes (all recorded) where topics like this would have been discussed and actioned. A record of events would also be contained in Peter Moir's electronic files/folders as he tracked all PMI's and CE's and if the filters were removed then there would be a PMI and a CE. These Early Warning meetings would normally be attended by myself, Peter Moir NHS and David Hall and Douglas Ross (TA's) and Brookfield staff led by John Ballentyne and Mike Sharples (supported by sub-contractors, consultants as required). Discussions/actions from these meetings would be discussed at weekly project team meetings or in some of the many other meetings held by NHS staff.

45. The Inquiry understands that there were schemes of delegation in place, delegating the discharge of the Board's responsibilities to the Project Team for certain matters. Please confirm your understanding of what decisions the Project Team were responsible for by virtue of the schemes of delegation.

A. From my memory there was not a scheme of delegation the Inquiry refer from the Board to the project team setting out delegated limits on construction and design decision making. The Board had a number of schemes of delegation as part of their corporate governance and the main one that would impact the project team's work most would have been Standing Financial Instructions (SFI'S). This scheme of delegation covered a range of areas of Board business, providing threshold limits of delegation to officers including; budget management, capital and revenue expenditure, procurement, stock management, pay, non-pay, audit etc. etc. but I do not recall there being a specific scheme of delegation from the Board to the project team setting out limits of decision making in the delivery of the project other than those covering capital expenditure in the SFI's. Within the SFI'S both myself and my superior had thresholds of expenditure we could not exceed on the project. If my superior or myself were requesting funds above those threshold limits (not sure it ever happened) we would need to refer to a Board Sub-Committee, i.e. Performance and Review Group (PRG) not the Board.

If the amount being requested was above the PRG threshold limits the PRG would refer onto the Board for approval, again don't recall it happening. As I recall only financial matters were referred to the Board or Board Sub-Committee for approval, not technical matters, these were approved by senior officers. Regarding design and construction of the works, senior Board officers delegated the design review process (not the design itself, the process) to the project team to assist the main contractor team in the design and construction of the hospitals and laboratory buildings works, the contractor being totally responsible for design and construction of the works to fulfil the building contract.

I do not recall there being a list of items (scheme of delegation) that required the project team to get approved by the Board or Board Sub-Committee. Anything that was considered necessary to go to the Board or Board Sub-Group for approval would be decided by senior Board officers above my level, not by me or any member of the project team and anything that did go to the Board or Board Sub-Committee would be vetted by those same senior officers and accepted by them in the first instance before being submitted. The project team via myself provided the PRG (not the Health Board) with a regular update on progress and this was also vetted by my senior managers before submission.

a) In the context of the QEUH/RHC what decisions did the Project Team take by virtue of the schemes of delegation? Please provide examples for context.

A. See above Q45. As stated, I don't recall a scheme of delegation from the Board specifically to the project team, but from memory and in trying to be helpful and assist the Inquiry, an example of the kind of issues I think the Inquiry refers would be: if a department, for example say surgery, had an agreed number of rooms in a ward or agreed number of theatres in the theatre suite and there was a request by the users to increase that number of rooms in a ward or theatres in a theatre suite, then Board senior officers would instruct me as PD to take the proposed change to the Board Sub-Committee not the Board (under their direction) and set out the detail and the consequences of the change for their approval.

If, on the other hand the users wanted something changed technically for example within a ward or a theatre suite area (with no cost increase above delegated limits) then the project team and senior officers would deal with it without going to the Board Sub-Committee for approval and certainly not the Board. I don't recall the Board being asked for approval on technical issues (nor do I remember there being an instruction to take any technical decision to the Board) or anything else for that matter (only Sub-Committee) but it is a very long time ago and maybe I am mistaken.

Another example of not referring technical issues above to the Board or Board Sub-Committee would be an issue previously mentioned in my statement, the issue around the selection of the water taps, this would never have gone to the Board or Board Sub-Committee for their approval as it was technical and hence, it wasn't required. In my role, the main criteria for seeking Board or Board Sub-Committee approval would be regarding the exceedance of financial thresholds.

b) What decisions were you responsible for by virtue of the schemes of delegation?

See above Q 45 a). My decisions were in line with previous answer. Taking issues to Board or Sub-Committee of the Board of a financial nature not technical.

c) What matters and decisions were reserved for the Board?

A. Regarding the project, probably the business cases only with any other matters referred to the Board Sub-Committee as decided by senior officers at any given time and these would not be technical issues but certainly issues that were above the financial delegated authority. As I have stated above anything that caused unplanned resource consequences and anything that was outside Board senior officer financial delegated limits.

d) Where were matters regarding the schemes of delegation, responsibility for decision making and the like set out?

A. Probably they might be in the Board corporate policy documents I presume, it's too long ago and I don't remember.

Bone Marrow Transplant Unit (BMT) and Ward 4C

46 The Inquiry is aware the BMT service was to transfer from the Beatson to the QEUH as noted in the meeting minutes from the Quality and Performance Committee dated 2 July 2013 (**Document A40241860** to be added to Bundle) This was confirmed in a change order request, issued by Jonathan Best in July 2013 **(Please refer to Bundle 16, Document No.29, Page 1699)**. The Inquiry is aware that you retired on 31 July 2013, prior to your retirement what was your understanding and involvement, if any, in respect of the following:

a) Risk assessments/ HAI Scribes carried out prior to the change order request?

A. I don't remember ward 4 C was anything other than a general ward area. With regard to BMT (Ward 4 B) I am not sure when this was first raised as a potential change, sometime early in 2013. I think and I was told this was a proposal from the Board's Medical Director, Jenifer Armstrong. Jenifer Armstrong was as I remember the senior manager for IPC'S's and ICD's so I would assume she would have got them to carry out a patient risk assessment before submitting proposed change to the Health Board. I didn't really have much to do with this because I was retiring, had submitted my formal notice and it was agreed I should concentrate on current works. Hence, Peter Moir took the lead on this supported by David Hall.

b) Confirmation of technical and environmental requirements (in particular air change rates, pressure regimes and HEPA and air permeability requirements) to accommodate the BMT Unit at QEUH/RHC?

A. Not involved.

c) Attendance and involvement in any design review meetings were held to confirm with the user groups to confirm the requirements for the BMT Unit.

A. Not involved.

d) Discussion with Multiplex regarding the proposed change order and the impact on Air Change Rates and Pressure Differentials?

A. Not involved.

e) Involvement with Infection Prevention and Control in respect of the proposed change order?

A. Not involved.

f) What ceiling types were specified and approved for use in Ward 4B? Who from the GGC Project Team approved this? Describe your involvement, if any? What was the impact, if any, of the choice of ceiling tiles? What concerns, if any did you have regarding the choice of ceiling tiles?

A. Not involved.

g) What concerns, if any, did you have regarding the final design specification of Ward 4B, and what action, if any, did you take in respect of these concerns?

A. Not involved.

47 The Inquiry is aware that the change order not only confirmed that the Bone Marrow Transplant (BMT) service would transfer to Ward 4B in the QEUH but also that the haematology patients that were originally planned to accommodate Ward 4B would move to Ward 4C.

a) Describe how this change was communicated to the project team and Multiplex and how this change was captured in the design and specification documentation.

A. Not Involved.

Ward 2A

48 The Inquiry understands that Ward 2A/2B is the paediatric-oncology Unit and includes the Teenage Cancer Trust and the paediatric Bone Marrow Transplant (BMT) Unit - the department is known as the Schiehallion Unit.

a) What is your understanding of the intended use and purpose of the Ward 2A/ 2B?

A. As I recall it was the children's cancer unit and used for that purpose as described in the question, with 2A being inpatient and 2B outpatient services. Cancer patients require protective environment at certain times during their treatment.

b) Did the facilities in Ward 2A/2B as designed provide that protective environment? If so, how so, if not how not?

A. I left the project some sixteen months before practical completion and nearly two years before Ward 2A/2B was occupied. I have no idea what the end result was but would assume that all tests including validation were carried out before occupation.

c) What guidance was considered in the design of these wards?

A. Whatever was stated in the ER's and agreed by users, who my staff informed me were fully involved in the design process.

d) Which staff informed you?

A. From the project team those working with the Children's Hospital user groups were Mairi McLeod Children's Project Manager, Morgan Jamieson Children's Project Medical Director, Fiona McCluskey Project Nurse, Jackie Stewart consultant Nurse Infection Control, Frances Wrath Boards ASR Project Manager, Capita and employees of the contractor's team (Construction, Designer, health Planners etc.

e) What processes were in place to ensure guidance compliance?

A. As described already, COSs from users approved by clinical and managerial leads, user groups (including their own service infection control staff and the infection control central team) design meetings regarding RDD process with members as described above, service directors sign off in stage 2 and Capita to check compliance to ER's throughout the design, testing, commissioning and validation processes. Post selection of Brookfield during stage 2, designs were further developed for all parts of the hospital at a series of 3 meetings per user group (including wards 2A 2B) attended by NHS project managers Heather Griffin, Mairi McLeod, supported by Frances Wrath, Fiona McCluskey (nursing), Jackie Stewart (IPC), Karen Connolly (FM), Wallace Whittle, C&B, Capita and others depending on the issues being discussed. Designs were discussed, drawings updated and submitted for vetting A-D. Those vetting gave a ranking in the discussion with the team and signed off functionality to that ranking. As there were probably over 10,000 drawings in this process no one person could take on the task and the team as above undertook the vetting function although it was led by Frances Wrath, who provided the most input.

All design meetings were minuted by Brookfield's Design Manager and notes on discussion and actions loaded onto Aconnex for the record and clarity. Updated drawings would be uploaded prior to the next meeting for review by the NHS team and shared with the user groups. Prior to conclusion of the process in Autumn 2010 all Service and Clinical Directors from both the Adult and Children's Hospitals had to meet with their teams who had been involved in their departments design development and sign off the design or not. Don't remember any of them not being signed off. I had a regular meeting with the Children's Hospital senior team to get feedback or address any issue that may arise, don't recall anything that could not be resolved.

f) Were there any changes to the design during the design and build? If so, please describe any such changes, describe the impact, if any, on guidance compliance, and described the sign off process for any such changes, your involvement and how any changes were communicated to the Board. Was external advance ever sought in respect of design changes?

A. Don't recall any changes and certainly don't recall being advised of any non-compliances during the design period. However, when I was asked to attend meetings with David Loudon and Robert Calderwood CEO in 2016 nearly 3 years after I had retired about ventilation in general single rooms, someone brought up an issue about 2A design performance of isolation rooms (PPVL rooms). I asked what was the issue and David Hall indicated that Brookfield and ZBP had made some changes to the design but stated he was assured by them that it was still in compliance with guidance. This subject was also brought up at the Independent Review process led by Doctors Fraser and Montgomery but we didn't have any real detailed discussions on it. There was also a communication between Brookfield and Wallace Whittle in 2015 whereby Wallace Whittle confirm that the design is compliant. I was also made aware in 2016 or maybe 2019 (just prior to the independent review) that Peter Moir had the PPVL rooms commissioned twice, I would have expected that to have addressed any outstanding issues.

g) Describe the IPC involvement in the design of Wards 2A and 2B, who was involved and who signed off the final design and when.

A. The final design would be signed off by Brookfield and ZPB the hospital designers, the people responsible for design, construction, completion and compliance. The design development would be assisted by the project team led by Frances Wrath and Capita and users (including IPC) during the RDD process as previously described and given a ABCD status by either Frances Wrath or Capita. This would then be installed, tested and commissioned by Brookfield and Mercury Engineering and any specialist commission consultants (H&V I have been told) they employed and then the performance and installation approved by Capita for the Board. For specialist rooms in these areas the Board should carry out its own separate validation process (for example theatres, PPVL rooms) with IPC and ICD fully involved, in fact

they should be leading it. And again, as above I was informed these rooms were commissioned twice by Brookfield under the instruction from Peter Moir, hence, if there were issues at first commissioning, I would have expected them to have been picked up at the second commissioning before patient use.

h) What concerns, if any, did you have regarding the final design specification of Wards 2A and 2B, and what action, if any, did you take in respect of these concerns?

A. I don't remember any concerns and do not recall anyone raising concerns. Also, for these rooms, their performance should be validated prior to any patient use.

Isolation Rooms

49 Describe how was the number and location of isolation rooms agreed? Who approved the final number and locations in the QEUH and RHC?

A. All isolations rooms (type, quantity and location) would be at the request of the users and instructed to the project team and signed off by the users in conjunction with infection control personnel, supported by the TA's Health Planners (Buchan Associates) and the architects (Nightingales) and contractor health Planners Tribal, during the design process. No one else other than the users could make the decision about how many isolation rooms were needed other than the users. This is because the number of rooms, especially critical rooms with high ratio of clinical staff, are directly proportional to the revenue cost of running a department or the whole hospital, therefore, this decision would only be taken by the users themselves, no one else. These individual rooms would then be included in the Schedule of Accommodation (SOA) and finally approved by the Service Directors and their management teams including their Clinical Directors in the Autumn of 2010.

Both the Adult and Children's Hospitals had a process set out and agreed for approving this with the Board. Regarding the SOA, there was an earlier version compiled when I arrived in 2006 by the first set of TA's, Davis Langdon and Health Planners, Directions, and this may have been used as a basis for moving forward, but only the users and their senior management team could sign off the number of rooms, mainly because it is a huge driver of revenue costs, as well as clinical need.

50 Who was responsible for producing the drawings and the specification for isolation Rooms; who approved these from the GGC Project Team?

A. Brookfield and ZBP only for the drawings and design and Capita for confirming compliance. No one from GGC approved these drawings as I recall.

51 What concerns, if any, did you have regarding isolation rooms and compliance with SHTM/HTM? What action, if any, did you take in respect of any such concerns?

A. None. I don't remember being made aware they were non-compliant, if indeed they are. As stated in correspondence between Wallace Whittle, Brookfield and the NHS in 2015, Wallace Whittle state they are compliant.

a) Which correspondence are you referring to?

A. An email exchange between in the first instance between David Wilson, Brookfield and Mark Harris, Wallace Whittle in June 2015 and subsequently sent onto to Ian Powrie NHS and David Hall C&B.

52 The Inquiry has reviewed the RDS in excel format and note there is an entry under ‘Design Notes’ relating to Ward 2A isolation rooms, the entry states: WARNING NOTICE: This room is based on a theoretical design model, which has not been validated (see paragraph 1.8 of HBN 4 Supplement 1). Specialist advice should be sought on its design. The lamp repeat call from the bedroom is situated over the door outside the room.

a) Was this note entered on the RDS? If so, why and by whom?

A. Firstly, what part of the isolation room are you referring, there are three parts to an isolation room, hence, 3 RDS’s, patient room, lobby and ensuite, was it on all three rooms? I do not know if entered or not on RDS but generally RDS’s fully managed and updated by the architects, Nightingales named on the RDS form and all items discussed with ZBP and Brookfield. There will have been a number of iterations on the RDS’s from start to finish and my question would be, is this stated on all versions of them or removed after being actioned? I would say this is a question for those working with the detail of RDS’s such as Frances Wrath and Capita and Nightingales, ZBP and Brookfield.

b) What specialist advice was sought relating to the design of these rooms?

A. Advice given to user groups, project team (including infection control) by Brookfield, ZBP, TA (Wallace Whittle) and Capita during the RDS process as describe above. Did any of them seek further advice in their design development, you will need to ask them, the contractor did use specialist advisers on certain aspects of the works. This part of the design process would be during the stage 2 process in 2010 all minuted by Brookfield with marked up drawings produced (all stored on Aconnex) and NHSGGC should have copies of all this via Frances Wrath.

c) What was the final agreed design for isolation rooms and who approved this?

A. I do not have this information (it is a whole series of drawings and comments!!!) and as I stated previously it was all captured by Brookfield with all the signed off drawings and approving staff, Frances Wrath should have retained an NHS copy. This would be given a status (ABCD) by Frances Wrath and or Capita, probably Capita, Brookfield, ZBP and Mercury would then take forward to construction bearing in mind it is still their responsibility for compliance. If this changed in the ongoing design process after December 2010, then there would be a Compensation Event or PMI raised. These rooms should be approved by NHS via Capita as compliant and validated by NHS (i.e. IPC and ICD) before patient use. These rooms would also need the NHS to obtain separate validation certification to test their performance against guideline requirements.

53 What ceiling types were specified and approved for use in isolation rooms? Who from the GGC Project Team approved this? Describe your involvement, if any? What was the impact, if any, of the choice of ceiling tiles? What concerns, if any did you have regarding the choice of ceiling tiles?

A. Again, I do not have this detail, it will be on Aconnex and NHSGGC should have a copy. As stated above, Brookfield would make a proposal and it would go through the RDD process (with users, Infection control, Capita and project team led by Frances Wrath). For a building element like this, probably discussed in the process with Peter Moir and David Hall and compliance checked by Capita.

Handover prior to retirement and retirement

54 The Inquiry understands that you retired from the role of Project Direction in July 2013, at which time Mr Loudon stepped in to the role of Project Direction.

a) Describe the handover process, if any, between you and David Loudon when you retired from your role of Project Director.

A. As I remember it, David started a month or so before I left which I think had been agreed as part of his appointment to his new role, although I think he took holidays during this period. He spent time with me and the project team and was invited to a range of meetings we thought appropriate. He spent time with project team members, the contractor staff and advisory staff, some of whom he knew well because he had just left Currie & Brown to take up this role and he had visits to the new hospital site. Peter Moir was the project manager for the contract who would be the conduit for the transfer of me leaving and David taking over and, hence, it was important they had time to strike up a relationship, hence, they had some sessions together. David was also employed in a dual role as Facilities/Property Director for the Board and he spent some time with his other new colleagues as well and also with corporate HQ staff where he would eventually be part of the senior leadership team. We had individual conversations about the project and I think I had compiled a folder of information for him.

b) Please confirm how long the handover process was between you and Mr Loudon; how was the terms of your handover recorded and where would records of these handover discussions and arrangements have been kept. What information was transferred between you and Mr Loudon during the handover process?

A. He was based in our offices which were on the site for a number of weeks, say 3/4. There were no terms of handover set out by the Board to me as I remember, only an instruction to give him as much information and familiarisation as possible from the CEO and it was thought this would best be achieved by him buddying me and other members of the project team in those final weeks of my time on the project. I do not remember if the Board had organised a formal induction programme for him or not but we gave him as much support and induction as we possibly could. Please understand that at

this point in time I was supposed to be working only one day per week as part of my readiness to retirement process after more than 40 years of working (part of my terms & conditions) and I was actually working 5 days plus per week. The project team, the advisors, Capita and the contract manager were still in position to inform and advise him after I left. I don't remember specifically recording what we did with David although all the meetings he attended with me and others would be in our diaries if still available and anything I recorded would be on my computer. Meetings he attended would be in the meeting notes which the inquiry probably have these already but sure the NHSGGC would be able to provide them if not.

c) What concerns, if any, did you raise with Mr Loudon regarding the water and ventilation system?

A. I wasn't aware there were concerns when I left in 2013.

d) What information, if any, did you provide Mr Loudon regarding the ventilation derogation as provided for in the M&E Clarification log? What advice or information, if any, did you provide Mr Loudon with regarding the ventilation derogation?

A. I don't recall what information I gave David. However, the derogation you refer which was decided at bid stage wasn't mentioned as I remember. There were no concerns raised about the derogation since 2009 and we were all too busy getting on with the current work load which was substantial. He was invited to review notes, meeting minutes, all office files. meet with the project administrator and have access to all contract documents, Aconnex, along with the folder I left him.

e) What information, if any, did you provide Mr Loudon with regarding the proposal at the time to accommodate the BMT patients from the Beatson at the QEUH/ RHC campus?

A. I wasn't dealing with that but he would have heard the debate at some of the meetings he attended. Peter Moir would have briefed him on all current issues including BMT, He may also have been briefed on BMT by his new colleagues in the senior leadership team including the CEO who was the officer he reported too and Jenifer Armstrong, who was the proposer of the BMT change and who would become one of his close working senior colleagues.

55 **Refer to Bundle 12, document 104, page 813.** Following your retirement the Inquiry is aware of you sending an email to Douglas Ross, David Loudon, Peter Moir, Heather Griffin and Shiona Frew, subject matter 'Re: QEUH – SBAR Room Air changes'. This email you sent was in response to David Loudon's email of 21 June 2016 at page 816 of Bundle 12.

a) When did the Board accept derogation to the 3 air changes per hour?

A. Refer 31.

b) In your email at page 813 you state 'no matter what the infection control people say, they were involved in every aspect of the design and the member of the team responsible for infection control, Annette Rankin was the person responsible at design…'

Who signed off the design change from infection control? Annette Rankin has given oral evidence to the Inquiry during the Hearings commencing 20 August 2024 advising that 'she definitely was not asked to facilitate the provision of advice about whether it would be appropriate to have natural ventilation in this hospital.'

A. I think at the time, nearly 10 years ago I.e. 2016 meeting, what I mean in my email is that we were all involved including infection control (Annette in the earlier part of the process then Jackie Stewart latterly) through the whole process pre and post tender and like all other services areas (i.e. Estates, FM, IT, Physics, Bio- Engineering, Labs, finance clinical etc.) the process was set up as a hub and spoke process (not set up by me by the Board) whereby people in the project team and the wider evaluation group etc. had a responsibility to

connect with their own departments/functions and share information and feedback to the group about any concerns they may have. I did this myself with my own department and superior as did every other individual in the project team.

This is also not the first time in my career that infection control staff have changed over time and then not agreed with decisions their colleagues have been party too previously. From David Loudon's email we have an SBAR which is challenging the 3 ACH's from infection control staff (different infection control staff than from my time) suggesting/assuming that infection control hadn't been involved in this issue from my reading of it. It also states this air change rate was copied across from dialysis this is incorrect. What I am stating is that in my opinion infection control were involved like all the other functions and were party to the debates and raised no issues and as previously stated in this statement this was the only project I knew of which had an infection person attached to the project so we actually thought we were doing something very positive.

At the follow up meeting to the email, I expressed my comment again about infection control's involvement in the process when responding to Dr Armstrong's stating at the meeting that her infection control staff were saying they weren't involved. Therefore, for the sake of clarity, I am not meaning that Annette signed off the 2.5 air change rates or the sealed building or rejected natural ventilation personally but that she and others had been party to the debate in her role, like all others in the project team, she was to raise issues if she felt the need and share with colleagues and then feedback any queries or concerns. In my opinion we were all aware of the information available because Mark Baird (TA) took us all through it more than once, and I think the Clarification Log (during the evaluation/preferred bidder time period) showed 2.5 air changes per hour in general single rooms in those presentations from Mark which was subsequently changed to 40L/S through continued discussion, with nursing medical and infection control and the TA's , hence, in my opinion we were all aware of our professional advisor's recommendations to accept this change with no issues raised by them regarding infection control and I don't

remember anyone else raising any issues and they were free to do so. Infection control, including senior staff were aware of Peter Hoffman's comments in the email already referred to in this statement at question 30 a).
The inquiry team should note the massive task we were undertaken over that period of time and the enormous amount of information we had to cope with which was considerable, probably more than most of us had had to deal with at any other time in our NHS careers.

Regarding the question on natural ventilation, I thought I had cleared this up at a meeting in 2016 three years after I retired but it is a long time ago now. There was discussion on natural ventilation proposed by the Boards energy advisor Susan Logan and I am sure she will confirm that it was infection control staff who wanted a sealed building with mechanical ventilation and closed that down. My comment in the email is incorrect in that my final discussion on this was with Penelope Reading sometime in 2010 where she was asked about considering natural ventilation to the general ward rooms to gain some fresh air and adding to the air changes (which would have caused design changes to be made but we had the resources to do that). I think, this occurred with Wallace Whittle after a Lab project meeting (which we attended) and Penelope Reading questioned the advisors whether or not it would be possible if there were openings in the building for natural ventilation within the single rooms, could infection travel from one room to another? The TAs advised it would be an unlikely event but they could not give a guarantee this could never happen and the issue was then closed out, never to be mentioned again.

c) Who then was responsible at design from infection control?

A. The contractor and their designers employed as hospital specialist contractors in terms of providing best practice in building, in discussion with the project team as set up by the Board where infection control issues were considered and related to other infection control staff by the IPC member of the project team supported by Nursing, Medical Directors, FM, Estates, TA's and Capita and any actions raised or queries fed back and addressed. In all previous projects I have ever been involved with in the NHS, where there was no infection control representative on the project team, then myself or another project team member would have had to fulfil that role and liaise directly with infection control colleagues for advice or decisions to be made.

d) If advice was sought from infection control how was this advice recorded and where would it be stored?

A. Any feed back to the project team and decisions made would be recorded in minutes, on Aconnex as part of the design process, or in the Logs.

e) Please explain in further detail the rationale for the position you have adopted in your email.

A. Not sure I know what is meant by my rationale regarding my position, I didn't have a rationale as is suggested, I was retired, wasn't employed by the Board or anyone else and giving up my time trying to be helpful in responding to the Board by providing information in the email and at the meetings. As set out above, I was concerned that it was being suggested that infection control staff were never involved, which is not the case. However, hopefully I have now explained my email.

f) Please confirm whether a meeting took place following this email, whether the meeting was minuted and what action, if any, was taken following the meeting?

A. Yes there was a meeting, in fact two meetings. Both had minutes taken as I recall and David Loudon set out an action plan for staff which he copied me into. I do not know if all the actions were all concluded as the final version. What I received from David was version 2 and this version still had outstanding actions and I never received an update after that or a final version, hence, assumed mitigating actions had been successful.

g) Do you have a copy of this email and if so are you abler to provide same to the Inquiry?

A. It's an email with the actions attached from the meeting and I will provide them to my inquiry liaison person.

Taps

55 Describe your involvement, if any, in respect of the decision to use Horne taps.

A. As I recall from so long ago, Brookfield were endeavouring to identify and purchase the taps required for the hospitals. I asked Ian Powrie to get involved and give me his view on the best Tap available. I think there were three taps identified and one was Horne, I remember that manufacturer's name because in my time in NHS Horne products were well used, I don't remember the names of the other taps being presented. Ian updated a group I set to consider the best taps to purchase (Peter Moir, David Hall, Jackie Stewart and Fiona McCluskey) and gave his view of the three taps. I recall he wasn't sure which was the best to select and I'm sure he told us that the one he preferred (not the Horne) wasn't compliant with regulation but can't remember the detail. One of the other two taps being considered he didn't like (can't remember the reasons) and the Horne tap which I think he said was fully compliant but had a higher maintenance regime than the others although I recall positively he advised that in terms of disruption to clinical service, if there was a problem with this Horne tap and it need repaired or if it needed planned maintenance it could be easily removed from service and replaces within minutes without turning the water off,

i.e. very effective in busy clinical areas and I remember Fiona and Jackie were please about that.

I asked if there were others to consider and he respond no so I then asked Ian, Fiona and Jackie to do some research and risk assessment to try and make a selection which they did and I think they or one of them produced a paper on it for consideration showing that the Horne tap was the best of the three and most suitable for use. As part of the assessment they got in touch with other NHS establishments including HFS, Vale of Leven Hospital and I also contacted HFS, can't remember who but they directed me towards David Browning, Estates Director at Lanarkshire Health Board who they advised was the best source around to get advice from (think because Monklands Hospital had had many issues with legionella over the years and he had been involved) and I subsequently did that. In fact, I took Fiona along to see David at Monklands Hospital (don't think Jackie went on the visit) and asked David his view. He immediately went into a store cupboard adjacent to his office and produced the very same Horne Tap we were considering and told us this was the best and only tap we should consider using.

I think I was told by one of my staff that Yorkhill Hospital used this tap in some areas as well. There was contact with Belfast as advised by HFS because of an incident there in a Special Care Baby Unit and I think Fiona and Jackie had a conversation to ensure we were getting all the information we needed. I think it was to do with Pseudomonas infection (that was the first time I remember hearing about Pseudomonas) and we took on board their advice. The assessment was completed and the Horne Tap was chosen as a fully compliant tap and most appropriate available. As part of Ian's remit to build a maintenance resource target for future service he would need to take any additional maintenance costs into consideration when making up his final resource plan. I was subsequently informed that in June 2014 (a year after I had I had left) this was revisited by a large group of stakeholders chaired by HFS and they confirmed, that at the time of selection this Tap was fully compliant and indeed the group made a decision to stick with it and not to change it.

a) What concerns, if any, did you have regarding the use of Horne taps?

A. After the assessment by Ian, Jackie and Fiona and discussions with HFS and after speaking to David Browning and others there were no concerns to consider, as I can remember.

b) What risk assessments were carried out in respect of the use of Horne taps?

A. As above.

c) Who was involved in, and who signed off the use of Horne taps?

A. Ian Powrie, Peter Moir, David Hall, Fiona McCluskey, Jackie Stewart, David Browning and HFS. The final sign off would have been completed at one of our Early Warning meetings and that would probably mean myself or Peter signed it off, probably me taking account of my involvement as stated above. This was not taken to the Board.

56 Is there anything further that you want to add that you feel could be of assistance to the Inquiry?

A. During the period I was Project Director at NHS GGC, New South Glasgow Hospital (NSGH) project there were many other associated tasks to be fulfilled which are not obvious from the question and answer statement process I have participated in to produce my statement to the Inquiry. Therefore, I am taking this opportunity to endeavour to inform the Inquiry about some of the associated requirements and significant additional activities necessary to complete a project of this scale and complexity in order to try and inform them of the significance of the task and effort involved in this major project. Therefore, the following is additional information I want to submit to the inquiry in order to provide some context and scale of the work I undertook during my tenure as Project Director.

My question sets from the Inquiry have mainly focussed on activities between the summer 2009 and December 2009, i.e. the period when the project was going through competitive dialogue, evaluation of bids, selecting and working with the preferred bidder and signing stages 1 and 2 of the building contract. This period is focussed on by the Inquiry primarily because it is part of the timeframe when the derogation for reduced air changes in the general single rooms was being discussed and generally agreed. During this period, I had to rely heavily on the NHS GGC appointed Technical Advisors leading and closing out all activities post evaluation including all technical aspects of the project and including the single room ventilation derogation relevant to the procurement process to arrive at an agreed position with the preferred bidder as there were many other tasks and activities I had to fulfil and the timescales which were set were very challenging.

There were many meetings, workshops, discussions and correspondence to be addressed with the Health Board, Government, City Planners, SPT, Scottish Power, CAA etc. and other internal and external stakeholders as further detailed below, not to mention the time and effort in providing feedback to those unsuccessful bidders (substantial piece of process and content), one of which was threatening legal action which had to be addressed in very tight timescales. At the same time as the procurement exercise the main focus and issues taking up much of my time was continuing to lead the process of design development for the Laboratory project which was another major element of the redevelopment of the Southern General Hospital site. This project was tendered as part of the overall packages of work (stage 1 in contract) but unlike the two hospital projects the design did not stop at the bid stage in mid-summer 2009, as it did for the Hospital's, the design of the labs project was instructed to continue (different design team) to the next level of design i.e. from RIBA stage D to RIBA stage E. This was because the Labs project was planned to start on site in the January 2010 only months away and indeed Brookfield started ground works on the site in December 2009 (pre contract approval at their own risk) and this in itself took a lot of organisation on my part to enable this work to commence.

The laboratory project was a substantial undertaking at 25,000 m2 valued then at circa £125M including equipment (£250M at today's prices) and it also housed the Glasgow's Mortuary services, again another key stakeholder to be involved with this aspect of the development of the site. I was fully involved trying to complete and close out all this associated work for the laboratory project during this period.

Also, within this same period of time, I was interacting with relevant parties in preparation for the construction of a new 33,000-volt substation to be constructed for servicing the new laboratory and the Hospitals (i.e. contract stage 1 January 2010) and very much time critical for the whole project, again another substantial piece of infrastructure to be planned.

Additionally, i.e. before the end of 2009, I was heavily involved in leading the planning and preparation for the re-siting of the Southern General Hospital Emergency Helicopter Service which was required to be moved because of the construction works for the new laboratory building, although the helicopter landing pad wasn't on the same site as the Lab, the works, (mainly Cranes) would affect helicopter operations and, hence, planning alternatives was time critical which entailed a huge amount of input from me to find and negotiate a base for this critical service to continue.

Subsequently, during the design and construction stages of the new laboratory and hospitals i.e. from January 2010 onwards, there were many other associated works and process I needed to undertake, lead or be involved with which took up significant amounts of my time (along with others in the project team) which were very necessary for the successful operation of the new facilities, these included amongst other things:

- undertaking major demolitions works on a major operational acute site, relocating the Scottish Ambulance Service's Glasgow Base from the Southern General Hospital to another two sites and preparing and completing works on these sites for the successful transfer of this critical service;

- Providing two new water mains services (fully independent of one another) from North and South of the River Clyde to provide good resilience to the new hospitals and laboratory facilities along with major reconfiguration of the hospital's drainage system;
- Very significant works which entailed re-diverting the blue light emergency route within the existing hospital and associated critical logistical issues to be addressed including, building a new temporary road system in one of Scotland's busiest Hospital emergency service sites;
- Planning, procuring and building two new multi-storey car parks, a new office building (for clinical staff), a Teaching and Learning Centre and a Clinical Research facility with Glasgow University, a temporary staff canteen building to be constructed then deconstructed when the hospitals were complete.
- Supporting the team at Ronald McDonald House to relocate from Yorkhill to the Southern General including significant involvement in the relocation and site selection and dealing with difficult contractual and legal issues to be addressed and resoled to achieve this transfer;
- Undertaking major infrastructure service change prep works for new hospitals including, re-siting two critical pieces of hospital infrastructure i.e. re siting the high voltage substation feeding the fully operational critical care unit and the theatre suites ensuring absolutely no service disruption and, re-siting the main oxygen plant (VIE) suppling nearly a thousand operational beds again ensuring no disruption to critical life support services;
- Completing traffic management assessments for city planners and negotiating and agreeing car park provision for the site in conjunction with negotiating with the council on section 75 agreement/requirements;
- interpreting with advisors many service site surveys to enable major infrastructure connections and working with SPT to determine the Fastlink-Service configuration to the hospital site from the city centre; and
- many inputs and discussions with the city planners in all things regarding the final appearance and materials to be used in the new Hospitals and associated works.
- Before I retired, I played a significant role in supporting the work of planning the migration of services into the new hospitals and Laboratory.

All of the above work entailed financial, legal, clinical, and service planning and involvement from me with staff and internal and external stakeholders including working with other organisations such as, Council Planning, Scottish Ambulance Service, Architect & Design Scotland, SPT, CAA, CLO, Scottish Government, public meetings and workshops. I was also required to play a significant role in community engagement and community benefits programmes. The timelines to deliver the project were set and agreed by the Scottish Government and the Board and they were to say the least very challenging.

I have answered the questions put to me by the inquiry team to the very best of my recollection, but without access to my past communications, emails, diary information and other documents covering my involvement on the project spanning 7 years with my last involvement in summer 2013, it is an extremely difficult undertaking. Without access to the relevant information, it's unreasonable to expect a fully accurate account of my involvement and any errors, inaccuracies or inconsistencies in this statement, and in any statement I may have given to others, is due to the passage of time and lack of my personal information on the project being made available and should not reflect on either my credibility or reliability.

Declaration

I believe that the facts stated in this witness statement are true. I understand that proceedings for contempt of court may be brought against anyone who makes, or causes to be made, a false statement in a document verified by a statement of truth without an honest belief in its truth.

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

Appendix A

A40241860 - Item 03 - Minutes July 2013 - to be bundled

A47069198 - Bundle 12 - Estates Communications

A47851278 - Bundle 16 - Ventilation PPP

A49342285 - Bundle 17 - Procurement History and Building Contract PPP

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

A52491934 - Bundle 43 Volume 2 - Procurement, contract, Design & Construction, Miscellaneous Documents

Appendix B

N/A

Appendix C

Alan Seabourne – CV and Professional Background

I started work as an apprentice Mechanical and Electrical engineer in 1964 after I left school. After my apprenticeship was completed in 1968, subsequently, I worked as an Engineering Supervisor in a plastics manufacturer until 1980.

I joined the NHS in 1980 and worked there for 33 years. I started as an Estates Officer in 1980 and moved through the levels of management to become a Health Board Director in Argyll & Clyde Health Board in 2005.

I worked for two Health Board's in my time, Glasgow and Argyll & Clyde.

From 1980 until 2000, I worked as an Estates Officer, Senior Engineering officer, Works Manager, Estate Director, Operations Director and from 2000 until 2006 senior manager mostly managing clinical services in a number of roles including Director of Community Care, Health Board Operations Director, Integration Director (including being Chief Officer Royal Alexandria Hospital), Divisional Director (Chief Officer) Inverclyde Royal Hospital and Inaugural Chief Officer for the new Health and Social Care Partnership (HCP) in Inverclyde Council area.

From 2006 until I retired in July 2013 my role was project director for the New South Glasgow Hospital (NSGH) project.

After I retired from the NHS I have been a Non-Executive Director and Lay member on a number of Boards for different organisations.
In 2021 I returned to fulltime working for a year (fixed term) when I was asked to lead the development of the operational commissioning strategy/plan for the New Children's Hospital being constructed in Dublin for Child Health Ireland, the largest Children's Hospital in Europe when complete.

Non-Executive Director, National Paediatric Hospital Development Board (Ireland) - (12/07/2022 to current). Appointed by the Minister of Health, Ireland to the Board who have responsibility for overseeing the delivery of the New Children's Hospital, Dublin and associated projects.

Trustee and Non-Executive Director Lar Housing Trust (01/07/2020 – current). Provide governance, leadership and advice to the senior management team of Lar Housing Trust, a charity providing rented accommodation in the Mid-Market Housing sector in Scotland.

Director of Operational Commissioning Children's Health Ireland (2/3/2021- 31/1/22). Develop the operational commissioning strategy and migration plan to enable clinical and operational services to transfer from the old children's hospital's to the New Children's Hospital in Dublin when complete and commission Tallaght Hospital's Paediatric Emergency Care Centre (10/11/2021).

Lay Committee Member of Court, University of Glasgow (01/02/2014 – 31/01/2024). A member of a number of governance/strategic Boards overseeing the successful delivery of Glasgow University's £1Billion campus redevelopment.

Trustee & Non- Executive Director of Erskine Veterans Hospital (01/02/2014 – 28/02/2020). Provide governance, leadership and advice to the senior management team to support them in providing and developing a range of services to ex forces personnel.

Project Director – New South Glasgow Hospital Campus Development, NHS Greater Glasgow & Clyde - (02/06/2006 – 31/07/2013). Lead the Project Team tasked with developing and delivering the Adult and Children's Hospitals, Integrated Laboratory Facility, 33KVA Electrical Substation and other associated projects and enabling works on the Southern General Hospital Site. Some of these included, Clinical Research Facility, Learning and Teaching Centre, Clinical Administration Block, Multi-Storey car parks, Transport Hub, new off-site facilities for the transfer of the Scottish Ambulance Service, transfer of helipad off-site and major site infrastructure service changes, including, diversions and installations of critical services, temporary and new roads layouts and demolitions of old buildings. Responsible for the administrative and financial control of the project (including all associated works) and for staff resources.

Divisional Director (Chief Officer), NHS Argyll & Clyde, Inverclyde Royal Hospital, and simultaneously Inaugural Chief Officer Inverclyde Community Health & Social Care Partnership (CH&SP) - (10/05/2005 - 01/06/2006). Lead a multi-agency team to manage and deliver acute, community and primary care and Local Authority services in Inverclyde, with an emphasis on integrated working between the NHS and Local Authority and other partners, responsible for meeting national patient performance targets. Responsible for the management of financial revenue and capital and staff resources.

At the same time lead officer for the provision of laboratory services across Argyll & Clyde Health Board.

Director of Service Integration, Renfrewshire (NHS Argyll & Clyde) and Chief Officer for Royal Alexandria Acute Hospital, Renfrewshire - (02/04/2004 - 09/05/2005). Manage the delivery of acute and community health services in Greater Renfrewshire with an emphasis on service redesign and innovation to make a major impact on clinical performance by reducing delayed discharges to improve patient services. Responsible for the management of financial and staff resources.

Director of Operations - NHS Argyll & Clyde (02/01/2003 - 01/04/2004). To contribute to the overall strategic, financial and operational management of NHS Argyll & Clyde by providing business support to the corporate management team. The main aim of this role was to improve the performance and efficiency of service delivery by carrying out reviews to support change and improve effectiveness and efficiency with targeted investment across all Board activities.

Director of Community Care – Renfrewshire & Inverclyde Primary Care NHS Trust (01/04/2000 - 01/01/2003). Lead the development of a partnership framework between the Trust and three Local Authorities to deliver the governments community care targets and Joint Future Policy requirements. To make a major impact on reducing hospital blocked beds (Delayed Discharges) including innovations in discharge processes and to further develop working relationships with social work and responsible for managing the clinical re-provisioning programmes for Learning Disabilities, Elderly Mental Health and Adult Mental Health Services. Responsible for the management of financial and staff resources.

Director of Operations, Capital Planning & Clinical Information System – Yorkhill NHS Trust (01/04/1992 – 31/03/2000). Manage the delivery of all non-clinical services including, property management portfolio, hotel services, procurement, estates services, information technology, bio-engineering, capital projects, retail contracts, medical photography, staff accommodation, Health & Safety and administration.

Director of Estates - Yorkhill Hospitals (July 1990 - 31/03/1992). Management of estates services and capital planning.

Senior Estates Manager (Works) – Maternity & Paediatric Hospitals Unit (June 1988 – July 1990). Management of estate and capital services for 5 maternity hospitals and Royal Hospital for Sick Children.

Senior Estates Officer Victoria Hospital Unit – (July 1982 – March 1998). Managing estates services for buildings and infrastructure.

Estates Manager Argyll & Clyde Health Board (July 1980 - June1982). Management of estate services for buildings and infrastructure.

Scottish Hospitals Inquiry
Witness Statement of
Robert O'Donovan

1. WITNESS DETAILS

1.1 My full name is Robert O'Donovan. My date of birth is [redacted].

2. QUALIFICATIONS

2.1 My qualifications include a NHC in Construction Management, and an Irish Management Institute Leadership Certificate. I qualified as a mechanical fitter in 1992.

3. PROFESSIONAL BACKGROUND

3.1 Mercury Engineering Limited ("Mercury") build and manage complex engineering projects and work across healthcare, pharmaceutical, data centre and semi-conductor sectors throughout Europe. I began working at Mercury in 1996 as a Project Supervisor. I have since held roles of Package Manager, Project Manager, Project Director, Operations Manager from 2017 and Director of the Healthcare Business Unit from 2019 to present. I am leaving Mercury on 24 April 2025.

3.2 I have over 30 years of experience in the construction industry and have had senior management involvement with several high-profile projects in the UK and Ireland including the New Royal Hospital for Children and Young People in Edinburgh, Queen Elizabeth University Hospital ("QEUH") in Glasgow, the Bon Secours North Block Extension in Cork, and the New Children's Hospital in Dublin.

4. QUEEN ELIZABETH UNIVERSITY HOSPITAL, GLASGOW

4.1 In November 2010, Mercury started working on the laboratory building at QEUH ("the Project"). We completed this in March 2012.

4.2 Mercury was involved in the following stages of the Project:

4.2.1 Stage 1: construction of the laboratories and FM Hub.

4.2.2 Stage 2: design of the Adult Hospital and the RHC to full business case submission, carried out concurrently with Stage 1. This was a full business case exercise.

4.2.3 Stage 3: design and construction of the Adult Hospital and the RHS and Energy Centre.

4.3 Mercury had worked on a hospital project in Peterborough before QUEH/RHC. I was not involved in that project. Multiplex were also involved in the Peterborough project.

4.4 Mercury was awarded Stage 2 of the Project in around December 2010. At this point we had already secured the Stage 1 contract which was to go ahead regardless of whether we received the Stage 2 award. I had very limited involvement in the contractual side of the Project. Ed McIntyre led on that aspect for Mercury.

Question for Witness: Describe your understanding, if any, of Mercury's involvement in Stage 1 of the Project. The Inquiry understands from your responses herein that you were not involved until 2010.
[Type your answer here]

4.5 I first became involved in QEUH/ RHC in 2010. I was Project Manager for the Mercury work, reporting to Ed McIntyre, who was then the Healthcare Business Unit Director. My role was to oversee the whole project, and this included the

mechanical and electrical aspects. Ciaran Kellegher was the Package Manager for water and gas and Sinead Rogan was the Package Manager for ventilation. Both Ciaran and Sinead reported to me. Ed, Ciaran and Sinead no longer work for Mercury.

4.6 I was based on site for the duration of the Project, and I had an office on site. I generally did not know, nor did I need to know, about the granular detail of the work that was being carried out on site on a day-to-day basis. This information would have been held and overseen at Package Manager level. Each Package Manager also had sub-contractors, supervisors, and floor managers working for them and reporting to them.

4.7 ZBP designed the water and ventilation systems. Mercury was not involved in the design of those systems at all. The design team presented its design to Mercury which would typically include drawings, schematics and equipment data sheets. Mercury's engineers would then source the equipment required as noted in the data sheets, and once the equipment was sourced Mercury would submit the details to the design team through Multiplex who would review that information along with the design team and NHS GGC, the Client. Once the relevant teams had reviewed Mercury's submission, we would receive either an "A", "B" or "C" status. This process is known as design verification, which is used to demonstrate that the design has been interpreted correctly.

4.8 If our submission was rejected, we would receive a "C" status, and Mercury would review and make the necessary changes and re—submit the information. If we received a "B" status then there would be minor comments that would need to be addressed, and if we received an "A" grade that would mean that our equipment selection was approved for use.

4.9 If Mercury thought there was any information missing on a design provided to us, or we had a query about a particular design, we would submit a Request for Information ("RFI"). These were sent to the design team through Multiplex, and we would receive a written response or a sketch or drawing in response. The RFI process exists throughout the entire life cycle of a project. The design is always

developing and changing so there could be RFIs submitted later in a project. Trackers and logs are usually retained on a centralised system. The Aconex system was the project communication platform for the Project and used for the purposes of uploading RFIs, submittals etc.

Question for Witness: At what point, if any, did Mercury provide comment or critique of the design of the water and ventilation system? If Mercury did not comment or critique the design of the water and ventilation system, why not?
[Type your answer here]

Question for Witness: What concerns, if any, did you/ Mercury have regarding any aspects of the design of the water and ventilation system?
[Type your answer here]

Question for Witness: Describe any RFIs submitted in respect of the water system, what concerns, if any, did you have at the time?
[Type your answer here]

Question for Witness: Describe any RFIs submitted in respect of the ventilation system, what concerns, if any, did you have at the time?
[Type your answer here]

4.10 I was not involved in the Reviewable Design Data ("RDD") process or the User Group Meetings.

4.11 I did not sit on the Project Steering Group so cannot comment on its purpose or issues discussed.

4.12 Mercury had and still has a strong relationship with Multiplex. NHS GGC had a good relationship with both Multiplex and Mercury.

Question for Witness: Describe the working relationship with Multiplex during the works to Ward 4B in 2015. Please refer to **Bundle 43, Volume 1, Document No.63, Page 324**. This document appears to show a strained relationship with Multiplex during this process, please discuss.
[Type your answer here]

5. VENTILATION

5.1 I have become aware that single bedrooms were designed with an air change rate of 2.5 air changes per hour ("ACH"), rather than the required 6 ACH. I cannot recall if I was aware of that change at the time of the Project or whether I learned of this afterwards.

Question for Witness: Who drafted the M&E Clarification Log and who was responsible for updating the Log? Following updates to the Log, please provide details of who the Log would have been distributed to?
[Type your answer here]

5.2 Mercury would not have been involved in any decision to change from 6 ACH to 2.5 ACH. That would have been a decision made between the design team and NHS GGC. As explained above, Mercury was presented with the design and we then sourced the materials and equipment required, subject to final approval.

Question for Witness: What was the scope of the agreed ventilation derogation recorded in the M&E Clarification Log? In particular, was it restricted to general wards only? If so, (a) how is this interpretation evidenced within the documentation; and (b) where is the specification located for areas that required specialist ventilation and isolation rooms?
[Type your answer here]

Question for Witness: Where in the derogation does the restriction to general wards appear (in order to instruct the later processes)?
[Type your answer here]

Question for Witness: The 6ACH is long standing guidance and was in an SHTM to be complied with. Were you not concerned with its dismissal as unnecessary' or reliance on Building Standards (not specific to healthcare)? What risk assessments, if any, do you recall having been carried out in respect of this decision? Were you advised who made this decision? If so, who signed off on this decision?
[Type your answer here]

5.3 I was not aware of the ZBP Ventilation Strategy Paper until now so am unable to comment on its contents or any action taken or not taken by NHS GGC.

5.4 I was not part of the preparation and submission of the Full Business Case.

5.5 I recall some significant changes which occurred in relation to ventilation. At level 4 of QEUH there was a significant change which happened very near the end of the Project where the design team and NHS GGC decided that they wanted to change both the area and functionality of part of the hospital. I think that related to Ward 4B where the use of the room changed from Renal and Haemato-oncology patients to the Bone Marrow Transplant ("BMT") service. The haematology patients moved to Ward 4C.

Question for Witness: The Inquiry understands that notwithstanding the changes to the intended use of Ward 4B which you refer to above, that changes were not made to the ventilation system serving Ward 4B and that, as a result, the ventilation specifications did not meet the needs of the patients intended for Ward 4B following the change order request in July 2013 by Jonathan Best (Please refer to **Bundle 16, Document No.29, Page 1699**). Please explain your understanding of the position and the changes made you refer to above – what changes were made, what was your involvement, what risk assessments were carried out, what consideration was given to guidance? What changes did you understand to have been made to the ventilation system?
[Type your answer here]

Question for Witness: What changes, if any, were discussed, made in respect of

Ward 4C?

[Type your answer here]

5.6 These changes were dealt with in the same way as every other aspect of the hospital: Mercury was given new drawings and designs, and our technical team had to work with those to source the required materials. The changes involved moving walls, and it was quite disruptive being so close to the end of the Project.

5.7 There was also a significant change made to level 2 of the RHC, known as the Schiehallion Unit. Mercury was provided with the design specification; we had no involvement or input into the design. There may have also been changes made post practical completion. However, I left site in around February 2015 to work on another project so am unable to comment on those.

Question for Witness: Please describe the changes you refer to in respect of Ward 2A, what was the nature of these changes? Provide as much detail as possible regarding these changes, describing what they were, the impact, if any, on the ventilation system. Describe your involvement, if any, in respect of these changes.

[Type your answer here]

5.8 I cannot comment on specific aspects of design of the isolation rooms, other than Mercury was provided with the design and installed the ventilation systems on that basis.

Question for Witness: What concerns, if any, at the time did you have regarding ventilation and isolation rooms?

[Type your answer here]

5.9 I was not involved in the commissioning of the ventilation system. Mercury engaged a sub-contractor, H&V, to commission the ventilation system.

Question for Witness: What involvement, if any, did you/ Mercury have in respect of assuring that the ventilation system met with the requirements of SHTM and guidance? If you were not involved, who was?
[Type your answer here]

Question for Witness: SHTM 03 01 provides for validation as a step to be taken before handover is accepted. Were you aware of this? What provision in the programme was made for it to be carried out successfully?
[Type your answer here]

6. WATER SYSTEMS

6.1 I recall that there were various discussions related to the use of Horne taps during the process of getting them approved for use. There were several meetings between NHS GGC and the relevant teams. I believe that there were meetings which the owners of Horne attended with NHS GGC and others. I vaguely recall a meeting with the owner of Horne and the outcome of that meeting was to continue using the taps. At that point they were approved for use and would have been installed in around 2013. I have no notes of that meeting so cannot confirm what was the discussed or the justification for the decision to continue to use the Horne taps.

6.2 I was not directly involved in either the commissioning or testing of the domestic water system. However, my understanding is that the water system was filled when it was because of the length of time it was going to take to commission each section of the system. It was a large water system.

Question for Witness: What concerns, if any, did you have regarding the size of the water system? Did you discuss any such concerns with anyone working on the QEUH site, if so, whom and what action, if any, was taken in response to these concerns?
[Type your answer here]

Question for Witness: What concerns, if any, did you have regarding the filling of the water system? What action did you take in respect of any such concerns?
[Type your answer here]

Question for Witness: What action was taken to drain/ clean the water?
[Type your answer here]

Question for Witness: What was the impact, if any, of having filled the water system so early?
[Type your answer here]

Question for Witness: With the benefit of hindsight, what action, if any, should have been taken in response to filling the water system at the point when it was filled?
[Type your answer here]

Question for Witness: On what date did Mercury carry out air pressure-testing of the water system? What results did this produce? What records have Mercury retained on that process? What was the outcome?
[Type your answer here]

Question for Witness: On what date did Mercury carry out water pressure-testing of the water system? Why was this done? What results did this produce? What records have Mercury retained on that process? Was the outcome satisfactory?
[Type your answer here]

Question for Witness: Why did Mercury engage a sub-contractor to carry out flushing and testing? Why was this sub-contractor chosen? What specifications were given for this task to be done?
[Type your answer here]

Question for Witness: What was contained in the 'method statement'?
[Type your answer here]

Question for Witness: What records do Mercury have of the water system being: (a) filled; (b) flushed; (c) sterilised; (d) tested; (e) kept moving? How satisfied were Mercury with the process?
[Type your answer here]

Question for Witness: To whom at NHS GGC were these records given? Have Mercury retained copies?
[Type your answer here]

6.3 Mercury engaged a sub-contractor, H&V, to commission and test the domestic water system. Mercury pressure tested the water system with air, prior to it being filled with water. After it was filled the system was pressure tested with water and handed over to H&V for flushing and testing. H&V prepared a method statement which Mercury submitted to Multiplex who then approved it. The water system was flushed with water after it was filled, and then it was sterilised with a sterilising agent. After that the system was tested at various outlets and maintained by keeping the water in the system moving. This process was repeated until it was handed over to NHS GGC.

6.4 There were full records of testing and maintenance kept and handed over to NHS GGC at completion.

6.5 I am unable to comment on whether Capita was given the opportunity to witness testing of the water system.

7. ENERGY CENTRE

7.1 I am unable to comment on commissioning and handover of the energy centre.

8. HANDOVER

8.1 I was not directly involved in handover of the water and ventilation systems, but all information which required to be handed over would have been provided to Multiplex by being uploaded to Zutec.

Question for Witness: Who oversaw contractual compliance? Who was responsible for ensuring that the paperwork was produced to confirm contractual compliance? Was validation of the ventilation system a contractual requirement? If so, do you know who signed off on contractual compliance given the lack of validation?
[Type your answer here]

Question for Witness: What information, if, any, do you recall being provided in respect of guidance compliance?
[Type your answer here]

Question for Witness: Who was responsible for providing asset tagging. Do you know why was there no asset tagging? Who decided to proceed to handover without it?
[Type your answer here]

Question for Witness: Describe your understanding of who was responsible for carrying out L8 pre-occupation risk assessments?

[Type your answer here]

8.2 I am unable to comment on works carried out post-handover as I moved to another project in February 2015.

Declaration

I believe that the facts stated in this witness statement are true. I understand that proceedings for contempt of court may be brought against anyone who makes, or causes to be made, a false statement in a document verified by a statement of truth without an honest belief in its truth.

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

Appendix A

A47851278 - Bundle 16 - Ventilation PPP (External Version)

A52399188 - Bundle 43 Volume 1 - Procurement, Contract, Design and Construction, Miscellaneous Documents (External Version)

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

Appendix B

Scottish Hospitals Inquiry
Witness Statement of
Helen Byrne

This statement was produced by the process of a question and answer recorded interview with the witness. The questions and answers are produced within the statement.

Personal Details and Professional Background

1. Name, qualifications, chronological professional history, specialism etc – please provide an up-to-date CV to assist with answering this question. Please include professional background and role within NHS GGC, including dates occupied, responsibilities and persons worked with/ reporting lines.

A. Helen Byrne.

Qualifications:

M.Sc. (with Distinction (1st)) in Strategy and Resource Management – University of Northumbria at Newcastle – 1996

M.A in Applied Social Studies – Warwick University – 1989

B.Soc.Sc. (Hons) in Sociology and Social Administration – University College Dublin, Ireland – 1984

Certificate of Qualification in Social Work (CQSW) – Warwick University – 1989

Chronological professional history in summary:

September 2012 – December 2021: Barts Health NHS Trust, London. Held positions as Director of Strategy at the Royal London Hospital and Director of Operations at Whipps Cross Hospital.

February 2011 – August 2012: Chelsea and Westminster NHS Foundation Trust, London. Held positions as Divisional Director of Operations and Head of Performance Improvement.

March 2010 – February 2011: Croydon Primary Care Trust: Held positions as Deputy Chief Executive and also supported the Quality Improvement Plan across South West London.
January 2006 – March 2010: NHS Greater Glasgow and Clyde. Held the position of Director of Acute Services Strategy, Implementation and Planning.

August 2004 – January 2006: Easington Primary Care Trust: Held the position of Deputy Chief Executive.

March 2002 – August 2004: County Durham and Darlington Strategic Health Authority. Held the position of Executive Director of Planning.

January 1999 - March 2002: County Durham and Darlington Health Authority. Held the position of Deputy Director of Planning.

January 1998 – January 1999: City Hospitals Sunderland. Held the position of Business Manager.

November 1993 – January 1998: Gateshead and South Tyneside Health Authority. Held the position of Commissioning Manager.

1984 – 1993: social work positions held across England and Ireland.

Role within NHSGGC:
I joined NHSGGC as Director of Acute Services Strategy, Implementation and Planning (DASSIP) in January 2006, which I held for 4 years up to February 2010 (I took some leave before starting my new NHS role in NHS London in March 2010).

In summary, my role was to provide leadership on the implementation of aspects of the acute services strategies for Greater Glasgow and for Clyde (Clyde became part of Greater Glasgow and Clyde in April 2006, 4 months after I joined Greater Glasgow). For more detail on role in my NHSGGC, I attach an organisational chart. **(Appendix B)**

One component of my role as DASSIP was to provide leadership on the delivery of Phase 2 of the Acute Services Strategy. The Acute Services Strategy to modernise acute adult health services in Glasgow was agreed by the then Health Minister in 2002 and comprised 4 phases.
Phase 1 (the new builds on the Stobhill and Victoria sites; the centralisation of cancer services at the new Beatson West of Scotland Cancer Centre; and the development of the West of Scotland Heart and Lung services at the Golden Jubilee National Hospital) was well underway when I joined in early 2006.

Phase 2 would see a new hospital on the Southern General site, co-located alongside a new Children's hospital on the Southern General site as recommended in the Calder Report published in March 2006 and agreed, following a consultation process on the new children's hospital, the outcome of which endorsed the proposal to adopt the Southern General as the site for the new children's hospital and was ratified by the NHSGGC Board in June 2006.
During my 4 years in NHSGGC, in delivering Phase 2 of the Acute Services Review (ASR), I was responsible for driving progress on key milestones and ensuring NHSGGC Board / Scottish Government approval at appropriate points in the process.

During that time: Gateway Reviews 1 and 2 were successfully achieved; the Outline Business Case (OBC) for the new Southern General Hospitals and Laboratory Project received Board and Scottish Government approval in 2008; Board agreement was given to the preferred Procurement Model in October 2008, and in November 2009, Board approval was given for the preferred contract bidder to deliver the following stages:
Stage 1 – The design and construction of the new Laboratories (subject to Scottish Government Health Directorates Capital Investment Group approval of the Full Business Case);
Stage 2 – Detailed design of the New Adult and Children's Hospitals;
Stage 3 – Construction of the New Adult and Children's Hospitals; and Stage 3A - Demolition of the Surgical Block and associated buildings and completion of the soft landscaping. The contract was signed between the NHSGGC Board and the preferred contract bidder**,** Brookfield Construction (UK) Ltd, in December 2009.

My reporting line was to the Chief Executive and, in relation to the new hospitals project, the New South Glasgow Hospitals Project Director reported to me, who was appointed in May 2006 (my other Direct reports are set out in the attached organisation chart). The Project Director led a team of colleagues from the Board and a number of advisers and he and those teams were responsible for the detailed work associated with the new hospitals project.

I left Greater Glasgow and Clyde to return to the NHS in England in February 2010.

Site Selection

2. Describe your involvement in the site selection process in respect of QEUH/RHC.

A. When I joined NHSGGC in 2006, the decision had already been made that the new adult hospital would be built on the Southern General site. On reviewing the papers provided by the Inquiry Team, I note in bundle 17, document 27 that work had been underway across Glasgow for a number of years, on the current and future shape of acute health care services for the population. The plan for the south of the city was to create a new single set of facilities for in-patient services on one site to serve the south side and a new state-of–the-art Ambulatory Care Centre at the Victoria Infirmary. Regarding the new single set of facilities for inpatient services on one site, a consultation was carried out in 2000 on two options:

1. A new ‘greenfield’ site hospital and 2. Redeveloping the Southern General, the outcome of which was that the Southern General was the preferred site for the hospital. While the greenfield option had the potential to offer good benefits in terms of achieving clinical adjacencies, it was an extremely high cost option and considered unaffordable. The new build option on the Southern General site became the preferred option allowing reuse of the existing estate. This had been endorsed in 2002 by the then Minister of Health as part of the acute services strategy for Greater Glasgow. In 2004, the then Health Secretary announced funding for a new Children’s Hospital to be built on a site that would allow the ‘triple co-location of services’ (adults, children and maternity.

The decision had already been made to close the Queen Mother's Maternity Hospital on the Yorkhill site and its activity to be transferred to the SGH and Royal Infirmary). A Ministerial Advisory Group, chaired by Professor Andrew Calder, was established, and in the report of that Group, published in March 2006, the selection of the Southern General site was affirmed as the location for the new children's hospital. This recommendation was accepted by the Minister for Health and Social Care in 2006 following a consultation in Glasgow.

3. Describe the risk assessments, if any, that were carried out? What was the outcome? What consideration, if any, was there in respect of proximity to Sheildhall Sewage Treatment Works? What consideration, if any, was there in respect of the Shieldhall Recycling Centre? What concerns, if any, did you have regarding site selection? What action, if any, did you take in respect of such concerns and what was the outcome?

A. I am unaware if any risk assessments were undertaken following the decision in 2002 that the new hospital be built on the Southern General site, as I did not commence in NHSGGC until 2006. I cannot recall if any risk assessments were undertaken, subsequently. I did not raise any concerns about the site selection, given the clinical benefits of the proposed 'triple co-location of services' and that the site selection had been signed off by the Scottish Government, following a consultation undertaken in Glasgow long before I started work in Glasgow.

a) Are you aware of considerations being made in respect of the proximity of the Shieldhall Recycling Centre when the site was being selected?

A. I was not working in Scotland when the site was being selected and therefore, am not aware of the considerations being made in respect of the proximity of the Shieldhall Recycling Centre.

b) Do you know whether any consideration was given to the location of the sewage works?

A. Because I was not working in Scotland when the site was being selected, I am unaware whether any consideration was given to the location of the sewage works.

Procurement

4. Describe the funding PFI changes, your involvement, why the changes were made, who signed off on the changes and what the escalation process was in respect of the Board authorising these changes.

A. I do not recall the detail about the PFI changes. I do recall, at high level, that there was considerable focus on affordability and deliverability of the New Hospitals and Laboratory project. On reviewing the July 2007 NHSGGC Board Minutes, (**Bundle 37, Document No.27, Page 351**) I note that the then Board Director of Finance 'updated members on the discussions which had been held with the NHS Scotland Director General Health & Chief Executive and Director of Finance on the affordability issues and possible financial models in relation to the new South-side Hospital and Children's Hospital'. 'It was recognised that a flexible partnership approach to funding would be required. The outcome of the National Resource Allocation Committee's review and the Public Expenditure Survey would have an impact on the affordability and financial models for a project of this size'.

In September 2008, I have reviewed a paper which was submitted by me in my capacity as DASSIP to the Performance Review Group (a standing Committee of the Board) entitled Procurement Strategy to develop the Southern General Hospital Site – New Adult and Children's Hospitals and new Laboratory facility, (**Bundle 17, Document No.35, Page 1811)** which set out the detailed work that had been undertaken in developing the procurement model. The paper stated that 'The Project Team, supported by advisers (legal and financial) and other Board Officers, have carried out a robust process to develop, what is proposed as, the most appropriate delivery vehicle for the construction of a New Adult Hospital, New Children's Hospital and Laboratory

Facility on the Southern General Hospital Campus. The New South Glasgow Hospital Executive Board recommend that, subject to a final review by newly appointed Technical Advisers and PUK, the most appropriate method to procure and deliver the New Southern General Development is to implement the method set out in the Market Sounding Report. In other words, during stage one of the procurement process rapidly select down to one preferred bidder. This will be carried out using the Competitive Dialogue procedure. In stage two the preferred bidder is contracted to design the facilities and provide the Board with a Guaranteed Maximum Price' It was proposed that the method set out in the Market Sounding Report be discussed and tested with the new Technical Advisers and PUK in the following weeks, following which it would return to the Board with the final procurement methodology for approval. The recommendation for the Procurement Model (supported by the Board's Legal, Financial, Technical and Procurement Advisers) was formally submitted to, and approved by, the NHSGGC Board in October 2008.

a) Was the way the building was to be maintained and the resource level for the estates team considered at the time of the change of funding mechanism from PPP to conventional procurement.

A. In reviewing various papers to PRG and Board from 2007 to 2009 (as set out in my answer 4 A above) (**Bundle 37, Document No.35, Page 473**) affordability was a key component in consideration of the procurement model. Specifically relating to the paper to PRG in November 2009 (**Bundle 17, Document No.65, Page 2660**), section 5 sets out a section on affordability including capital and revenue affordability, On page 2669, reference is made to the Board's continued work on the development of further cost savings schemes within the context of its annual financial planning process aiming to generate a further £12m of cost savings over a 4 year period. 'This will be ring fenced, along with savings from the Acute specific cost savings schemes as these are released to secure the funding sources required to meet the operating costs of the new hospitals'. Although the estates team is not

specifically mentioned, estates finance colleagues will have been also involved in the financial discussions.

5. Were the risks and the resource implications of changing the procurement model from PFI to traditional (design and build) adequately assessed, in particular:

(i) the impact on commissioning.

(ii) the impact on independent validation; and

(iii) ensuring sufficient resources to manage and maintain the hospital post-handover?

A. I recall, at high level, that a significant amount of work was undertaken in relation to the procurement model. As stated above, papers in my role as DASSIP were submitted to the Performance Review Group in September 2008 and the NHSGGC Board in October 2008 (**Bundle 37, Document No.35, Page 473**) where the decision was approved to proceed with the proposed Procurement Model. The robustness of the model was tested at numerous points including in the Gateway 2 review which was undertaken in January 2009 (see answer to question 6 below). I do not recall specific risk assessments in relation to the impact on commissioning, the impact on independent validation, nor on ensuring sufficient resources to manage and maintain the hospital post-handover. However, reviewing the paper submitted to PRG in November 2009 (**Bundle 17, Document No.65, Page 2660**), I note that section 5 focuses on capital and revenue affordability and the plans to ensure overall affordability.

a) Was an explanation given as to why this could not be any kind of PFI project? What was the rational given for this decision at any meetings you attended? Why did it require to be publicly funded?

A. If an explanation was given as to: why this could not be any kind of PFI project; the rationale given for this decision; and why it required to be publicly funded, I do not recall the detail. These discussions would have been led by the Board's Director of Finance together with key finance colleagues across the acute sector and estates teams, and as noted in my answer to question 4 A (in

reviewing the paper submitted to Board in July 2007) (**Bundle 34, Document 6, Page 52**) 'the then Board Director of Finance 'updated members on the discussions which had been held with the NHS Scotland Director General Health & Chief Executive and Director of Finance on the affordability issues and possible financial models in relation to the new South-side Hospital and Children's Hospital'. 'It was recognised that a flexible partnership approach to funding would be required. The outcome of the National Resource Allocation Committee's review and the Public Expenditure Survey would have an impact on the affordability and financial models for a project of this size'.

6. Describe the Gateway Review process and your involvement in it, if any,

A. In terms of the Gateway Review Process, I have reviewed the paper submitted to Board in February 2008, in my role as DASSIP, entitled New Southside Hospital, New Children's Hospital and New Laboratory Build – Approval of the Outline Business Case, (**Bundle 37, Document 32, Page 413**) and note that it set out 'The New South Glasgow Hospitals project is subject to Office of Government and Commerce (OGC) Gateway Review. Projects which are commission critical or deemed to be high risk projects are required to go through the six stages the OGC Gateway Review Process. The review is an independent assessment of the robustness of the business case, that it meets business needs, is affordable, achievable with appropriate options explored and likely to achieve value for money. In doing this the review outcome highlights whether aspects of the project are red, amber or green (traffic light system).

I was involved at high level in Gateways 1 and 2. The Project Director and team, with support from advisers completed the detailed work. I have reviewed the paper that went to Board in February 2008 and note that it sets out the outcome of Gateway 1. 'The Southern General development has completed the Gateway Review Stage 1 which was carried out from 8th to 10th of January 2008. The review was carried out by a review team consisting of 2 Office of Government and Commerce Consultants and two senior

technical NHS Scotland managers. During the three days of the review interviews were undertaken with 18 members of staff including clinicians, senior managers, project team, staff side representatives and finance colleagues'. Many positives were identified including that the business case was robust, likely to be affordable, achievable, with the appropriate options explored, and likely to achieve value for money. The Project team was well established; there was good communication with Clinicians, Staff side, the Scottish Government and Community Health Care Partnerships (CHCPs) and a strong focus on community engagement. The Gateway Review resulted in five ambers (areas requiring more detail and information before the next Gateway Review) and one green light. It was regarded as positive that there were no reds (areas which would have required immediate action).

I have reviewed the February 2009 Board paper, entitled New Southside Hospital, New Children's Hospital and New Laboratory Build – Approval of the Outline Business Case (**Bundle 37, Document 32, Page 413**) and note that I updated the Board on Gateway review 2, again, the detailed work for which had been completed by the Project Team, supported by the Board's advisers. The review investigated the assumptions in the Outline Business Case (OBC) and proposed the approach for delivery of the project including details of the sourcing options, proposed procurement route, supporting information and project methodology and also checked that plans for implementation were in place. The review was carried out on 27th to 29th January 2009.

The Review Team found that the project has made significant progress since the first Gateway Review in January 2008. The key managers across the project all had a very detailed understanding of all areas of the project which reflected both the quality and level of communication and the Board's approach to accountable officer responsibilities, which had led to the involvement of key players in a large number of project boards and groups. It concluded that the project had taken a very robust approach to the

identification of a suitable procurement route, seeking input from advisers and the marketplace.

The prudent financial planning in the OBC means that the project was as well-positioned as possible to manage the uncertainties of the current economic climate. The public support of the Scottish Government in approving the OBC was expected to bring increased confidence to the market. The overall rating of the review was amber based on the single amber rating namely that the project should develop a more detailed benefits management plan. All other areas were classed as green.
I had no further involvement in the Gateway Review process as I left NHSGGC in February 2010.

a) The Inquiry understands that Gateway Review 2 was carried out between 27 and 29 January 2009 and issued to you as Senior Responsible Owner on 29 January 2009. What did it mean for you to be Senior Responsible Owner, when were you appointed to that role and what were your duties and responsibilities?

A. As Senior Responsible Officer (SRO) in the role as DASSIP, I was the person responsible for ensuring progress on delivery of Phase 2 of the Acute Services Strategy (as I set out in my answer to question 1). I was responsible for ensuring the project met its objectives and that key deadlines and timescales were met and for keeping PRG and Board updated and that key decisions were made as appropriate by PRG and Board. In my role as DASSIP, I was responsible not only for the NSGH project but also interrelating programmes including (but not exclusively): health inequalities; community transport and patient engagement; acute services planning; and ensuring, where appropriate, the interface with the NSGH project. Specifically in relation to Gateway 2, I was responsible for ensuring the Board understood the outcome of the Gateway review (this paper was presented to Board in February 2009, see answer of question 6 A above) and for assuring PRG and Board that the amber rating (see my response to question to 6A above) would

be addressed and necessary action taken to ensure it became green. This detailed work was led by the Project Director and Team.

Employer's Requirements

7. Describe your involvement, if any, in the preparation of the Employer's Requirements (ERs).

A. I had no direct involvement in the preparation of the Employer's Requirements. This work was led by the Project Director, who reported to me, and the NHSGGC Project Team, with support from the advisers working with the Project team.

a) What was reported to you by the Project Director regarding the Employer`s Requirements? What actions' (if any) did you take?

A. I do not recall the detail reported to me by the Project Director. My role was to ensure the ASR Programme Board, the Performance Review Group and the Board of NHSGGC were kept updated on progress including on the development of the Employers Requirements (ERs) and that decisions as appropriate were made. From memory, the Project Director, as the subject matter expert and lead for developing the ERs had an input into all papers and indeed was involved in many meetings where he had a lead role in presenting the papers. During the period 2007 – 2009, a significant number of papers, as referenced throughout my response, were submitted to the Performance Review Group and Board setting out the work underway.

b) Who was responsible for providing the requirements for the Clinical Output Specifications and who approved the COS for inclusion in the ERs?

A. This work was led by the Project Director and his team including the Board's advisers involved in the project, who worked with clinicians across the various clinical specialties that would be based in the new hospital. I cannot recall who approved the COS for inclusion in the ERs.

c) Who was responsible for confirming what the relevant NHS Guidance was for the project

A. I cannot recall who was responsible for confirming what the relevant NHS guidance was for the project.

d) It appears that the employer's requirements in the tender documentation for the ventilation system included a requirement to comply with SHMT 03-01. Were you aware of this and what impact did you understand such a requirement to have on the ventilation standards in terms of air change rates, pressure differentials and the presence of HEPA filtration in (a) general wards, (b) the proposed new Schiehallion Unit and (c) the planned isolation rooms?

A. I do not recall that I was aware the employer's requirements in the tender documentation for the ventilation system included a requirement to comply with SHTM 03-01. In terms of understanding the impact such a requirement to have on the ventilation standards in terms of air change rates, this was and is an area entirely out with my level of expertise and knowledge. I would not have understood the pressure differentials and the presence of HEPA filtration in (a) general wards, (b) the proposed new Schiehallion Unit and (c) the planned isolation rooms and would have needed the advice of relevant experts and advisers, had I been in Glasgow when such decisions were being made.

e) How did sustainability and energy targets impact on the design

A. I am aware that section 6.9 of the OBC focuses on sustainability and energy conservation and sets out at high level sustainability and energy targets and the impact on the design. However, I do not recall the impact on the design and I do not recall having any involvement in this work.

f) Describe your involvement and understanding, if any, in the removal of the maximum temperature variant? **(Bundle 17, Document No.26, Page 1063)** Why was the decision taken and by whom? What risk assessments, if any, were taken prior to making this decision? What was the impact, if any, in removing the maximum temperature variant?

A. I have no recollection of any involvement in, nor understanding of, the removal of the maximum temperature variant. I cannot recall why the decision was made nor by whom it was made. I would not have made that decision as this was an area about which I had no knowledge, nor understanding of impact. I cannot recall if any risk assessments were undertaken. I do not know the impact, if any, of removing the temperature variant.

g) Describe your involvement and understanding, if any, in the decision to use chilled beams. Why was the decision taken and by whom? What risk assessments, if any, were taken prior to making this decision? What was the impact, if any, in using chilled beams?

A. I do not recall any involvement in, nor understanding of the decision to use chilled beams. I do not know why the decision was made nor by whom. I would not make a decision on a subject about which I had no knowledge nor understanding of impact. I cannot recall whether risk assessments were undertaken prior to making the decision. I do not know the impact, if any, in using chilled beams.

h) Who provided the specification for environmental data relating to air change rates, pressure differentials and filter requirements

A. I cannot recall who provided the specification for environmental data relating to air change rates, pressure differentials and filter requirements.

i) Who was responsible for HAI-SCRIBE assessment regarding the proposed site development, design and planning and new construction?

A. I cannot recall who was responsible for the HAI-SCRIBE assessment regarding the site development, design and planning and new construction.

Tender and appointment of Main Contractor

8. Describe your involvement, if any, in respect of the appointment of Currie and Brown as technical advisors. Confirming the selection process, why they were selected, setting out their role and responsibilities.

A. As DASSIP, in reviewing papers to PRG, I note that I submitted a paper entitled Appointment of Technical Advisers for the New South Glasgow Hospitals Project (**Bundle 34, Document 16, Page 120**) to PRG in August 2008 requesting that PRG note that the process to appoint a new Technical Adviser team for the procurement of the New South Glasgow Hospitals Project was now complete and that the successful team was led by Currie & Brown Ltd. Currie and Brown were formally appointed on 2nd September 2008.

In reviewing the August 2008 PRG paper, I note that the process had two stages. The first stage, pre-qualification, invited teams expressing an interest to demonstrate their legal, financial and technical credentials to undertake the work. From the nine teams returning pre-qualification documentation, four were rejected and five were short-listed to proceed to the next stage. The second stage required the five teams to prepare a detailed financial response to the Board's Invitation to Tender document, which was based on the proposed contract strategy arising from the market sounding exercise. Five bids were received on the 6th August. These bids were evaluated against the criteria in the Invitation to Tender document. The Board had stated in their tender document the intention to short-list three teams to proceed to interview, and the interviews took place on Monday 18th August.

Although I do not recall the detail, the PRG paper states that the membership of the interview panel, chaired by the Director of Acute Services Strategy Implementation and Planning, comprised senior Board representatives representing the Project, Clinical, Estates and Facilities and Finance colleagues, and a representative from Architecture + Design Scotland. Each of the three teams was afforded a one hour slot to present their team, their

proposed methodology, and answer questions prepared by the panel. At the conclusion of the interviews, the panel discussed the presentations and undertook an evaluation of their overall performance and financial submission. At the conclusion of this exercise scores were allocated to the three teams.

The team scoring the highest marks and thus providing the most economically advantageous offer was the team led by Currie & Brown. The evaluation panel concluded that the Currie & Brown team should be appointed as preferred bidder pending the ten day mandatory standstill period (required by Public Contracts (Scotland) Regulations), the ten day period being allowed should there be any legal challenge to the process by an unsuccessful candidate. The 10 day period elapsed on 1st September 2008 and Currie and Brown were formally appointed on 2nd September 2008.

9. Describe your involvement, if any, in respect of the selection process whereby Multiplex were selected as the preferred bidder.

A. I had no involvement in the detailed selection process whereby Multiplex were selected as the preferred bidder. In reviewing the November 2009 PRG paper, provided by the Inquiry Team, entitled Approval of the New South Glasgow Hospitals and Laboratory project, (**Bundle 34, Document 16, Page 120**) I note that in section 2, the quality evaluation process followed to select the preferred bidder is set out. The appendices A-E set out the detail underpinning the evaluation process with Appendix E setting out the Board and Advisors' membership of the 4 groups (design, logistics, labs and commercial) who undertook the detailed evaluation.

The conclusions of the Evaluation Group were presented to the New South Glasgow Hospitals & Laboratories Project Executive Board Seminar on Thursday 22 October 2009, which, although I do not recall the meeting, I believe I chaired. This meeting included the attendance and involvement of the NHSGGC Board's Chair, Vice Chair and Non-Executive Member of the NHS Board. With the comments from the seminar on 22nd October incorporated; on 26 October 2009, the Project Executive Board considered

the proposal. The meeting formally endorsed the outcome and recommended that it be submitted to PRG for approval, on 3rd November 2009.

a) Question for witness; Given your position, can you explain why you were not involved in the detailed selection process whereby Multiplex were selected as the preferred bidder.

A. It was not appropriate in my leadership role as DASSIP to be involved in the detailed selection process. I had not been involved in the detailed work in developing the tender documentation that went to the potential bidders following the pre-qualifying questionnaire process. This was led by the Project Director and his team, supported by the technical, legal and other advisers. Given the level of detailed (including highly technical) information required from the potential bidders and the level of detailed knowledge, experience and skills required to evaluate the submissions, it was not appropriate that colleagues, who were not involved in the development of that detailed work (over many years), be part of the evaluation process. This included me. In my leadership role as DASSIP, I was responsible for ensuring the conclusions of the Evaluation Group were presented to the appropriate Boards and Committees. As stated in 9 b) A below, 'The conclusions of the Evaluation Group were submitted to the New South Glasgow Hospitals & Laboratories Project Executive Board Seminar on Thursday 22 October 2009, which included the attendance and involvement of the Chair, Vice Chair and Non-Executive Member of the NHSGGC Board. With the comments from the seminar on 22nd October incorporated; on 26 October 2009, the Project Executive Board considered the proposal. The meeting formally endorsed the outcome and recommended that it be submitted to PRG for approval'. PRG gave approval to the preferred bidder at the PRG meeting in November 2009.

b) Why were Multiplex awarded the contract following the competitive dialogue process? What distinguished Multiplex from the other bidders to make them the preferred bidder? Include details of the tender process and explain how Multiplex engaged and became distinguished as the preferred bidder.

A. The detailed process to appoint Multiplex is set out in the November 2009 PRG paper, which I reviewed and note the following. In summary, the notification of the Project was placed in the European Journal in February 2009. Five potential bidders participated in the pre-qualifying questionnaire process, from which 3 were shortlisted to the next stage of the project, Multiplex being one of the 3. The tender documentation, which had been developed by the Project Team and Technical advisers who had worked with users, legal and financial advisers and others between September 2008 and April 2009, informed bidders of the Board's requirements. This documentation constituted 3 volumes: 1. Project Scope and Commercial document; 2. Employer's requirements; and 3. Bid return and evaluation.

The documentation was issued electronically to the bidders on 01 May 2009 stipulating that bids were to be returned by noon on Friday 11 September 2009, following the competitive dialogue process. Competitive Dialogue commenced on 11th May 2009. This involved a series of 16 scheduled meetings with each of the three bidders to discuss and clarify the Board's requirements in four main areas of the project: i) Design; ii) Site Logistics; iii) Laboratories; iv) Commercial. Four corresponding Groups were formed to represent the key areas with members from a range of stakeholders and advisers including Board Representatives, Medical, Nursing, FM and infection control representatives and Technical, Legal & Financial Advisers (appendix E sets out the Board and Advisors' membership of the 4 groups. The bidders were represented from their own internal teams and their associated partners. As part of the dialogue process the bidders formulated the agenda items based on their need to clarify any aspects regarding the tender documentation/project.

The agenda items were discussed and subsequently action/query lists were drawn up and responded to within agreed timescales. A Request for Information (RfI) process was also operated whereby bidders sent questions for clarification to the Board. The Competitive Dialogue concluded on 14 August 2009 following a bidder presentation and final feedback and direction from the Board. Three bids were received on 11 September 2009 and following formal receipt and recording, were initially checked for completeness.

To ensure that the Evaluation Team complied fully with due process, training workshops for the evaluators were held in advance of the tender return date. An Evaluation Centre was established at Gartnavel Royal Hospital, providing a secure base from which to manage and undertake the process. All members of the Design and Logistics groups co-located to this Centre for the full 5 week duration, thus ensuring interaction between individuals and Groups was possible at all times. A detailed evaluation programme was produced for the Team in advance, setting out the key actions and dates for the Groups. Areas covered by the evaluation, as set out, were: i) Design; ii) Logistic; iii) Commercial. The outputs of the Design and Logistics sub-groups were reviewed, for consistency of approach, scoring and reasoning, by Senior Managers in the first instance and then by the Commercial Group. The tender prices submitted were first assessed for errors, inconsistencies, exclusions and caveats, then equalised to adjust for bid allowances and missing items. The outturn adjusted bid prices reflecting the estimated target were then calculated.

The Most Economically Advantageous Tender (MEAT) scores , calculated as a ratio of quality and price were then generated using the full quality score and the adjusted bid prices, with a higher score representing better Value for Money. As stated above, the conclusions of the Evaluation Group were presented to the New South Glasgow Hospitals & Laboratories Project Executive Board Seminar on Thursday 22 October 2009, which included the attendance and involvement of the Chair, Vice Chair and Non-Executive

Member of the NHSGGC Board. With the comments from the seminar on 22nd October incorporated, on 26 October 2009 the Project Executive Board considered the proposal. The meeting formally endorsed the outcome and recommended that it be submitted to PRG for approval. PRG gave approval to the preferred bidder at the PRG meeting in November 2009.

c) Describe the scoring for value for money within the tender process, including your role, if any. How did Multiplex score relative to other bidders?

A. I had no involvement in the scoring for value for money. In reviewing the papers provided by the Inquiry, I note the November 2009 PRG paper, section 3, sets out the following: Financial Evaluation. The requirement to select the successful bidder on the basis of the Most Economically Advantageous Tender (MEAT), required the Board to consider the financial aspects of the bidders proposals. MEAT has been defined in this process, and discussed with bidders, as the offer that provides the greatest ratio of quality points for each pound of price. The pricing structure which bidders were required to follow was set out in the NEC 3 suite of documentation was an industry standard form of contract familiar to all bidders. The key elements of the financial evaluation were • The target and maximum price offered by bidders, and in particular the affordability • The bidders proposals for sharing both cost under and over spends (Pain/Gain) • The risks identified by bidders that may impact upon the final price paid. The evaluation methodology also required the consideration of risks retained by NHSGGC.

In summary the financial analysis found that • All the bids received were within the affordability limits set by NHSGGC • That only one bidder offered the opportunity of less than 50/50 sharing of costs overruns reflecting their confidence in their pricing • That the bids submitted by bidders 1 and 3 offered a high degree of certainty around pricing when risks were statistically assessed. Bidder 2 however, as the result of its consideration of a fewer, larger risks, offered a less certain price outcome. Based upon the statistical

analysis there is realistically no prospect of price outturns occurring that would change the order of preference for bidders proposals.

In terms of the MEAT Scores, they were as follows: Bidder 1: 417.2 Bidder 2: 369.6 Bidder 3: 377. Following consideration at the Project Executive Group in October 2009, as set out above, PRG was asked to approve the appointment of preferred Bidder 1 (Brookfield Construction (UK) Ltd (also referred to as Multiplex))

d) How did compliance with ER`s and guidance such as SHTM`s factor into the evaluation?

A. I was not involved in the evaluation and, therefore, am unable to comment on how compliance with ER's and guidance such as SHTM's was factored into the evaluation.

e) When did you first became aware that Brookfield could not achieve six air changes per hour in the wards of the hospital?

A. I have no recollection of being aware that Brookfield could not achieve the air changes in the wards in the hospital. This may have been a timing issue as I left in February 2010 and was not further involved in discussions about what could be achieved.

Ventilation Derogation

10. Explain your understanding of the ventilation design strategy contained in the Contractor's Tender Return Submission (11 September 2009) (**Bundle 18, Volume 1, Document 8, Page 205**). Was the ventilation system to be a mixed mode ventilation system (dependent on a non-sealed building) or a mechanical ventilation system (dependent on a sealed building)?

A. I have no understanding of the ventilation design strategy contained in the Contractor's Tender Return Submission. I have no recollection of this document.

11. Was the design and/or specification of the ventilation system as recorded in the Building Contract, in particular in the M&E Clarification Log **(Bundle 16, Document No. 23, Page 1664-5**) compliant with NHS Guidance?

A. I am unable to answer this question as it is out with my area of expertise.
If not, please explain:

(i) Why this design was proposed;

(ii) Why this design was accepted; and

(iii) What role, if any, BREEAM played in the acceptance of this design.

A. I have no recollection as to (i) why this design was proposed; (ii) why this design was accepted; and (iii) what role, if any, BREEAM played in the acceptance of this design.

a) If you are of the view that it was compliant, please explain why, with particular reference to SHTM 03-01 2009 (Ventilation Design) (**Bundle 16, Document No. 5, Page 342**)

A. I do not have sufficient knowledge nor expertise on this subject to have a view about compliance.

12. The Inquiry is aware of the agreed ventilation derogation recorded in the M&E Clarification Log. (**Bundle 16, Document No. 23, Page 1664-5)**

a) What was the scope of the agreed ventilation derogation recorded in the M&E Clarification Log?

A. I have no recollection of the scope of the derogation.

b) When did you first become aware of it and how?

A. I have no recollection of being made aware of the derogation although I note in question 12.g it is stated that 'Currie and Brown [in their response to PPP13] said that the GGC Project Team had advised me (Helen Byrne) of the Agreed Ventilation Derogation, alongside Alex McIntyre (Director of Facilities) & Peter Gallagher (Director of Finance).

c) The Inquiry understands that Alan Seabourne briefed you on the Ventilation Derogation and its importance. Please confirm your position.

A. Although it is stated that Alan Seabourne briefed me on the Ventilation Derogation and its importance, I have seen no record that Alan Seabourne briefed me about the Ventilation Derogation and its importance nor on any subsequent discussions. I have no recollection that Alan Seabourne briefed me. Therefore I am unable to confirm my position. If there is any documentation, it may assist me with answering the question more fully.

d) Was the agreed ventilation derogation restricted to general wards only?

A. I have no recollection of which areas in which the derogation would be applied.

e) If so, how is this interpretation evidenced within the documentation (such as the M&E Clarification Log) and where is the specification located for areas that required specialist ventilation and isolation rooms?

A. I do not recollect how this interpretation was evidenced within the documentation nor where the specification is located for areas that required specialist isolation and ventilation rooms.

f) Who else from the GGC project Team and Board were aware of the Ventilation derogation?

A. I do not recall who from the GGC Project Team and Board were aware of the ventilation derogation.

g) What action, if any, did you take to escalate your knowledge of the derogation to the Board? If you did not take any action, why not?

A. I have no recollection of taking any action to escalate knowledge of the derogation to the Board.

h) How was the agreed ventilation derogation signed off by the Board? The Inquiry understands from the response from Currie and Brown to PPP13 that the GGC Project Team had advised you of the Agreed Ventilation Derogation, alongside Alex McIntyre (Director of Facilities) & Peter Gallagher (Director of Finance). Please confirm your position. Please also confirm how this was discussed with the Board having regard to the paper you drafted alongside Alan Seabourne; Drafted Acute Services Review paper in 2010 which stated the Acute Services Strategy Board will “Approve change control in that any change which impacts upon the project must be authorised by this Board before it can be implemented”.

A. I have no recollection of being advised of the derogation.

I have reviewed the paper Acute Services Review Proposed Governance Arrangements (**Bundle 30, Document No.6, Pages 36–50**) and note that this paper contained the revised Terms of Reference for the proposed new bi-monthly Acute Services Strategy Board which included the proposal to

"Approve change control in that any change which impacts upon the project must be authorised by this Board before it can be implemented". This paper was submitted to the ASR Programme Board for approval on 19th February 2010. I have also reviewed the minutes of that meeting **(ASR Programme Board Meeting, held on 19th February 2010 - in Bundle 30, Document 11, Pages 69 -71)** and note that this was my last meeting (page 71) before I left NHSGGC to return to the NHS in London. Therefore, I had no further part in discussions relating to the new hospitals.

13. When did you first become aware of the ZBP Ventilation Strategy Paper dated on or around 15 December 2009? (**Bundle 16, Document No.21, Page 1657**)

A. I have no recollection of becoming aware of the ZBP ventilation strategy paper.

a) As director of Acute Service Strategy, who should have informed you of the existence of the ZBP Ventilation Strategy Paper?

A. If that had been the correct action to take, then I believe, it should have been the Project Director. I note in email chains submitted to the Inquiry **(Bundle 17, Document No.72, Page 2861 – R Ballingall, M Baird and S McKechnie - NHS Ward Ventilation Strategy Air changes, 15-16 December 2009 and Document No.73, Page 2869 – Email from M Baird to S McKechnie NSGH air changes 16 December 2009**) that issues relating to ventilation were being discussed by the Technical Advisers, so it is possible timing was an issue. As DASSIP, I was not involved in detailed discussions / decisions (certainly in relation to issues about which I had little or no knowledge) and I left the Board in mid-February 2010.

b) What action, if any, did you take when you became aware of this document and why? If you did not take any action please explain why not.

A. I do not recall seeing the ZBP ventilation strategy paper and do not recall any actions taken.

c) What concerns if any did you have on reading this document?

A. I do not recall reading the ZBP ventilation strategy paper.

14. What risk assessments (if any), whether in compliance with the standards in HAI Scribe or otherwise, did GGC carry out or have carried out in respect of the change in the ventilation strategy that appears to follow the ZBP Ventilation Strategy Paper dated 15 December 2009? (**Bundle 16, Document No.21, Page 1657**)

A. I cannot recollect what risk assessments (if any) were undertaken in respect of the change in the ventilation strategy that appears to follow the ZBP ventilation strategy paper dated 15 December 2009.

15. Was the Ventilation Derogation recorded in the Full Business Case? Who was responsible for doing this? If not, why not? If you were aware that it had not been recorded in the Full Business Case please explain what action, if any, you took.

A. I left NHSGGC in February 2010 and was not involved in the Full Business Case development.

a) Did you attend a meeting at NHS GGC Project Team Hillington office on or around 16 December 2009 which was attended by Mr Baird of Currie & Brown and Stewart McKechnie of Wallace Whittle? If so, please describe what was discussed, what the outcome of the meeting was and what action was taken in response to the meeting.

A. I do not believe I was at this meeting. I note in an email chain submitted to the Inquiry (**Bundle 17, Document No.72, Page 2861 – R Ballingall, M Baird and S McKechnie - NHS Ward Ventilation Strategy Air Changes, 15-16 December 2009**), that this references a meeting on 16th December.

I was not included in the email chain. Given the highly technical issues to be discussed in that meeting as set out in the email chain, in my view, it would not have been appropriate for me, as DASSIP, to have been invited to that meeting, nor do I believe I was invited nor that I attended.

Design and Construction and Role in the QEUH/RHC Project

16. When did you first become involved in the design of QEUH/RHC. Please describe your role and responsibilities.

A. I have described in my answers to the questions above, my role and responsibilities in relation to the New Hospitals. I had a leadership role, ensuring progress in relation to the project and that key objectives, requirements and milestones were met. I was not involved in the detailed work associated with the Project nor in the design of the QEUH/ RHC. Board colleagues with relevant skills, knowledge and experience, with support from Advisers, in relevant areas, led on aspects of the detailed work. The detailed design (stage 2 of the contract) occurred after I had left NHS Greater Glasgow and Clyde.

17. The Inquiry understands that you were **Director of Acute Services Strategy Planning and Implementation**. Describe in detail this role, including dates of appointment and when you left this role and why.

A. Please see the response to Question 1 as to my role. I commenced in role in January 2006 and left in February 2010, taking a period of leave before I commenced in my new role as Deputy Chief Executive in Croydon Primary Care Trust, in London. I believed this new post was an excellent next step in my career. I wanted to return to the NHS in England in which I had spent almost all my career

18. Explain how the Clinical Output Specification (COS) for the design of the Wards was confirmed and signed off. In doing so describe the purpose of the clinical output specification, and your involvement.

A. In relation to the work that was completed on the COS for the design of the wards, before I left NHSGGC, I do not recall how these were confirmed and signed off nor that I had any involvement. In terms of the purpose of the COS, my view is that this would have to been to set out construction and design requirements for clinical areas.

19. Explain the purpose of the guidance relied upon by the design team and why this was important.

A. In my view, the guidance relied upon by the design team will have been to assist in decision making regarding the design and construction of the hospitals and laboratory building, setting out obligations and ensuring safety.

20. The Inquiry understands that designs and Room Data Sheets (RDS) were approved through the Reviewable Design Data (RDD) process. Describe your role, if any, in the RDD process and User Groups.

A. I do not recall any involvement in this process.

a) How were members selected to be part of a user group?

A. I do not recall how members were selected to be part of a user group.

b) Confirm who attended the user groups meetings from IPC, Estates, Clinical and the GGC Project Team for the following areas: Ward 4B – QEUH; Ward 4C – QEUH; Level 5 – QEUH; Critical Care – QEUH; Ward 2A & 2B – RHC; PICU RHC – RHC; All Isolation rooms

A. This level of detail was developed after I left NHS GGC in February 2010 and I was not involved.

c) What steps, if any, were taken to ensure that an appropriately qualified source of IPC advice was an integral part of the Project Team?

A. Before I left NHSGGC in February 2010, I do not recall if IPC colleagues were an integral part of the Project team although I note in the November 2009 Paper to PRG that IPC colleagues were involved in the preferred bidder selection process.

d) How often were user group meetings scheduled to review design proposals and agree the design with the user groups

A. I left NHSGGC in February 2010 and do not have this information.

e) How often were user groups scheduled before you left in February 2010. What was the outcome/ recommendations following these group meetings?

A. I have seen no record of how often the user groups were scheduled before I left in February 2010 nor have I seen any record of the outcomes / recommendations following these group meetings. The detailed design work occurred after I left the Board in February 2010, as part of the next step, Stage 2, in the new hospitals project.

f) How were designs and the RDS approved to proceed to construction.

A. I left NHSGGC in February 2010 and was not involved.

g) Describe your involvement in the design and RDD process for the Scheihallion unit, PPVL and BMT rooms and PICU in the RHC

A. I left NHSGGC in February 2010 and was not involved.

h) Describe your involvement in the design and RDD process for the spaces to house immunocompromised patients, Ward 4C, BMT Unit, Infectious Diseases and the Critical Care Unit in the QUEH.

A. I left NHSGGC in February 2010 and was not involved.

i) Describe your involvement in the design and RDD process for Isolation rooms.

A. I left NHSGGC in February 2010 and was not involved

21. Please describe how the technical requirements (air change rates, pressure differentials and filter requirements) for the rooms were managed and approved, including your role and involvement.

A. I left NHSGGC in February 2010 and was not involved.

22. What guidance was considered in the design of wards to accommodate immunosuppressed patients, what processes were in place to ensure guidance compliance? Were there any changes to the design during the design and build, if so, please describe any such changes, describe the impact, if any, on guidance compliance, and described the sign off process for any such changes, your involvement and how any changes were communicated to the Board. Was external advance ever sought in respect of design changes?

A. I left NHSGGC in February 2010 and was not involved.

23. Who was responsible for confirming filtration and HEPA requirements and who approved this from the GGC Project Team?

A. I left NHSGGC in February 2010 and do not know who was responsible

24. In respect of any detonations/ departures from guidance which senior IPC individual was responsible for signing this off?

A. I left NHSGGC in February 2010 and do not know who was responsible from IPC in signing off any detonations / departures from guidance.

25. Describe your involvement and understanding, if any, of the decision to remove carbon filers? What was the rationale behind this decision, who was involved and what advice, if any, was sought in reaching this decision?

A. I left NHSGGC in February 2010 and did not have any involvement in or understanding of the decision to remove carbon filters

Bone Marrow Transplant Unit (BMT) and Ward 4C

26. The Inquiry is aware the BMT service was to transfer from the Beatson to the QEUH as noted in the meeting minutes from the Quality and Performance Committee dated 2 July 2013 (**Bundle 43, Volume 6, Document No. 45, Page 931**). This was confirmed in a change order request, issued by Jonathan Best in July 2013 (**Bundle 16, Document No.29, Page 1699**). What was your understanding and involvement, if any, in respect of the following:

a) Risk assessments/ HAI Scribes carried out prior to the change order request?

A. I left NHSGGC in February 2010 and do not know who was responsible

b) Confirmation of technical and environmental requirements (in particular air change rates, pressure regimes and HEPA and air permeability requirements) to accommodate the BMT Unit at QEUH/RHC?

A. I left NHSGGC in February 2010 and did not have any involvement.

c) Attendance and involvement in any design review meetings were held to confirm with the user groups to confirm the requirements for the BMT Unit.

A. I left NHSGGC in February 2010 and did not have any involvement.

d) Discussion with Multiplex regarding the proposed change order and the impact on Air Change Rates and Pressure Differentials?

A. I left NHSGGC in February 2010 and did not have any involvement.

e) Involvement with Infection Prevention and Control in respect of the proposed change order?

A. I left NHSGGC in February 2010 and did not have any involvement.

f) What ceiling types were specified and approved for use in Ward 4B? Who from the GGC Project Team approved this? Describe your involvement, if any? What was the impact, if any, of the choice of ceiling tiles? What concerns, if any did you have regarding the choice of ceiling tiles?

A. I left NHSGGC in February 2010 and did not have any involvement.

g) What concerns, if any, did you have regarding the final design specification of Ward 4B, and what action, if any, did you take in respect of these concerns?

A. I left NHSGGC in February 2010 and did not have any involvement.

27. The Inquiry is aware that the change order not only confirmed that the Bone Marrow Transplant (BMT) service would transfer to Ward 4B in the QEUH but also that the haematology patients that were originally planned to accommodate Ward 4B would move to Ward 4C.

a) Describe how this change was communicated to the project team and Multiplex and how this change was captured in the design and specification documentation.

A. I left NHSGGC in February 2010 and did not have any involvement.

Ward 2A

28. The Inquiry understands that Ward 2A/2B is the paediatric-oncology Unit and includes the Teenage Cancer Trust and the paediatric Bone Marrow Transplant (BMT) Unit - the department is known as the Schiehallion Unit.

a) What is your understanding of the intended use and purpose of the Ward 2A/ 2B?

A. I left NHSGGC in February 2010 and did not have any involvement

b) What guidance was considered in the design of these wards?

A. I left NHSGGC in February 2010 and do not know what guidance was considered

c) What processes were in place to ensure guidance compliance?

A. I left NHSGGC in February 2010 and do not know what processes were in place.

d) Were there any changes to the design during the design and build? If so, please describe any such changes, describe the impact, if any, on guidance compliance, and described the sign off process for any such changes, your involvement and how any changes were communicated to the Board. Was external advance ever sought in respect of design changes?

A. I left NHSGGC in February 2010 and did not have any involvement

e) Describe the IPC involvement in the design of Wards 2A and 2B, who was involved and who signed off the final design and when.

A. I left NHSGGC in February 2010 and do not know who was involved.

f) What concerns, if any, did you have regarding the final design specification of Wards 2A and 2B, and what action, if any, did you take in respect of these concerns?

A. I left NHSGGC in February 2010 and did not have any involvement.

Isolation Rooms

29. Describe how was the number and location of isolation rooms agreed? Who approved the final number and locations in the QEUH and RHC?

A. I left NHSGGC in February 2010 and did not have any involvement

30. Who was responsible for producing the drawings and the specification for isolation Rooms; who approved these from the GGC Project Team?

A. I left NHSGGC in February 2010 and do not know who was responsible

31. What concerns, if any, did you have regarding isolation rooms and compliance with SHTM/HTM? What action, if any, did you take in respect of any such concerns?

A. I left NHSGGC in February 2010 and did not have any involvement

32. The Inquiry has reviewed the RDS in excel format and note there is an entry under 'Design Notes' relating to Ward 2A isolation rooms; the entry states:

WARNING NOTICE: This room is based on a theoretical design model; which has not been validated (see paragraph 1.8 of HBN 4 Supplement 1). Specialist advice should be sought on its design. The lamp repeat call from the bedroom is situated over the door outside the room.

a) Was this note entered on the RDS? If so, why and by whom?

A. I left NHSGGC in February 2010 and did not have any involvement

b) What specialist advice was sought relating to the design of these rooms?

A. I left NHSGGC in February 2010 and do not know what specialist advice was taken

c) What was the final agreed design for isolation rooms and who approved this?

A. I left NHSGGC in February 2010 and do not know what the agreed final design was nor or who was involved

33. What ceiling types were specified and approved for use in isolation rooms? Who from the GGC Project Team approved this? Describe your involvement, if any? What was the impact, if any, of the choice of ceiling tiles? What concerns, if any did you have regarding the choice of ceiling tiles?

A. I left NHSGGC in February 2010 and had no involvement

Taps

34. Describe your involvement, if any, in respect of the decision to use Horne taps.

A. I left NHSGGC in February 2010 and did not have any involvement.

a) What concerns, if any, did you have regarding the use of Horne taps?

A. I left NHSGGC in February 2010 and did not have any involvement.

b) What risk assessments were carried out in respect of the use of Horne taps?

A. I left NHSGGC in February 2010 and did not have any involvement.

c) Who was involved in, and who signed off the use of Horne taps

A. I left NHSGGC in February 2010 and did not have any involvement.

Declaration

I believe that the facts stated in this witness statement are true. I understand that proceedings for contempt of court may be brought against anyone who makes, or causes to be made, a false statement in a document verified by a statement of truth without an honest belief in its truth.

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

Appendix A

A47851278 - Scottish Hospitals Inquiry - Hearing Commencing 19 August 2024 - Bundle 16 - Ventilation PPP (External Version)

A49342285 - Scottish Hospitals Inquiry - Hearing Commencing 19 August 2024 - Bundle 17 - Procurement History and Building Contract PPP (External Version)

A48235836 - Scottish Hospitals Inquiry - Hearing Commencing 19 August 2024 - Bundle 18 - Documents referred to in the expert report of Dr J.T. Walker - Volume 1 (of 2) - External Version

A51598597 - Scottish Hospitals Inquiry - Hearing Commencing 28 April 2025 - Bundle 30 - Acute Services Review Papers (External Version)

A51785179 - Scottish Hospitals Inquiry - Hearing Commencing 13 May 2025 - Bundle 34 - Performance Review Group and Quality and Performance Committee Minutes and Relevant Papers (External Version)

A51799939 - Scottish Hospitals Inquiry - Hearing Commencing 13 May 2025 - Bundle 37 - Board Minutes and Relevant Papers (External Version)

A52371801 - Scottish Hospitals Inquiry - Hearing Commencing 13 May 2025 - Bundle 42 - Volume 1 - Previously omitted meeting minutes - AICC/BICC minutes and papers (External Version)

A52862169 - Scottish Hospitals Inquiry - Hearing Commencing 13 May 2025 - Bundle 43 - Volume 6 - Procurement, Contract, Design and Construction Miscellaneous (External Version)

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

Appendix B

A51854228 - Helen Byrne - 2007 Organisation Chart as referred to in questionnaire response - Glasgow 4 Hearings - 20 February 2025.

David Loudon

Questionnaire

Part 1

Scottish Hospitals Inquiry (SHI) considerations and guidance.

When answering the questions below please type your answer in the answer area marked [Type your answer here] below the question, you will note that your type comes up in a different font from that of the question – this is to allow your answer to be read with ease. Please do not insert pictures or documents into your written answers. If you would like to refer to a document that we have provided within our bundles which captures your answer to the question, then please write this referring to the relevant document. If you wish to refer to your own document, then please write this as your answer and provide us with a copy of said document in order that we can process the document in accordance with Inquiry protocols.

Although we cannot be certain it is likely that you will be cited to give evidence at a hearing of the inquiry. Before giving evidence, you will swear an oath or affirm to tell the truth, the whole truth and nothing but the truth. One of the first questions you are likely to be asked is whether you adopt the terms of any statement or answers to this questionnaire as your evidence. That statement or answers to this questionnaire will then be published on the inquiry website. If you have any questions about your evidence or its implications, please speak to your own legal advisor or your employer. The SHI cannot give you legal advice. Should you have any questions as to your legal rights or liabilities, you should seek independent legal advice.

Part 2

A. Personal Details

B. Professional Background

C. Specific role(s) at QEUH/ RHC

D. Training

E. **Design and Construction and Role in the QEUH/RHC Project**

F. **Horne Taps**

G. **Ward 4B and 4C**

H. **Ward 2A/ 2B RHC**

I. **Isolation Rooms**

J. **Handover, Commissioning and Validation**

K. **DMA Canyon**

L. **Miscellaneous**

A. Personal Details

1. Name, qualifications, chronological professional history, specialism etc – please provide an up-to-date CV to assist with answering this question.

A David Wilson Loudon. CV dated November 2024 attached. It should be noted that the answers provided below are in the main in relation to the Project Director role. It should be noted that when I joined the project in 2013, most of the design and specification has already been signed off by NHS Greater Glasgow and Clyde.

B. Professional Background

2. Professional role(s) within the NHS.

A Project Director and Director of Facilities and Capital Planning. The role was retitled Director of Property, Procurement and Facilities Management to reflect the responsibilities and wider role of the job. Notably, the procurement function.

3. Professional role (s) at QEUH/RHC, including dates when role(s) was occupied.

A Project Director, June 2013 to January 2016. It should be noted that my predecessor continued to have responsibility and accountability as Project Director for a period of circa 3 months after my appointment to support the agreed handover process.

4. Area(s) of the hospital in which you worked/work.

A The adults and children's hospitals. The new office block and also, the learning centre. The new car parks and related public realm. Equipping of the hospitals. Migration planning and delivery of staff and patients for the demitting sites. Recladding of the Neurosurgical Building. The ICE Building in partnership with Glasgow University. Construction of Ronald MacDonald House. Demolition of the redundant property assets. It should be noted that the project management services for the projects was undertaken by internal NHS project management staff and appointed consultants. The construction undertaken by external contractors and subcontractors.

5. Role and responsibilities within the above area(s)

A The roles and responsibilities were determined by the job description for Project Director.

a) Question for Witness: Have you provided a copy of the job description? If you have not, please make this available to the Inquiry. If not, please provide details of the roles and responsibilities as asked.
[Type your answer here]

6. Who did you report to? Did the person(s) you reported to change over time? If so, how and when did it change?

A I reported to Mr Robert Calderwood, Chief Executive until his retirement and then, Mrs Jane Grant, Chief Executive until my departure from NHS Greater Glasgow and Clyde in January 2018.

7. Who selected you for your role(s)? When were you selected for your role(s)? Please describe the selection process for appointment to this/these roles?

A I applied for the role in response to an advert for the vacancy and attended an interview (remotely as I was working abroad) with the appointed NHS Greater Glasgow and Clyde Selection Panel. It should be noted that NHS Greater Glasgow and Clyde advertised the Project Director and Director of Facilities and Capital Planning – Designate as a single lot. On completion of the Project Director role, I then became the Director of Facilities and Capital Planning.

Until then, the role of Director of Facilities and Capital Planning was undertaken by the previous incumbent until his retirement and then, by the Assistant Director of Facilities.

8. Had you worked with any of your QEUH/RHC project team colleagues, estates colleagues, or other NHSGGC colleagues prior your role(s) at QEUH/RHC? If so, who had you worked with before this current role? When did you work with this/these colleague(s)? What role were you in when you worked with this/these colleague(s)? How long were you colleagues in this/these previous role(s)?

A I had not worked with any NHS colleagues before being appointed to the role but as noted in my CV, I worked for Currie and Brown UK Ltd and a number of their staff were already involved in the project prior to my appointment by NHS Greater Glasgow and Clyde.

C. <u>Specific Role(s) at QEUH/ RHC</u>

9. Confirm the role(s) that you held at NHSGGC?

A Project Director 2013 – 2016. Director of Facilities and Capital Planning from January 2016 to January 2018. During this period, my job designation changed to Director of Property, Procurement and Facilities Management

10. Describe how you came to be appointed to these role(s)?

A Noted in 7 above.

11. What previous working relationships, if any, did you have with those who selected you?

A None

12. Describe your role and responsibilities (including day to day) at QEUH/RHC post January 2015 when the hospital was handed over from Brookfield Multiplex to NHS GGC.

A My roles and responsibilities were as laid out in the job description for the role. On handover of the project in January, my focus with the team was planning for the delivery and installation of equipment and also preparing for the migration of staff and patients from the demitting sites. Typical, my day would consist of numerous meetings, committee meetings, stakeholder management and site tours.

13. How did your role change following handover of the QEUH/RHC in or around January 2015?

A My role didn't change at handover January 2015 in that I continued in the Project Director role until January 2016 when I assumed the role of Director of Director of Capital Planning and Facilities. At this time, I assumed responsibility for capital planning (acute estate comprising 35 hospitals and the health and social care estate comprising 60 health centres and clinics) asset management strategy (including disposal of demitting sites), facilities management (hard and soft), catering production units, transport, telephony, TSSU/decontamination, laundry services, sustainability strategy and management, energy strategy and management, supplies logistics and procurement and strategic and operational direction in relation to fire and security arrangements of all premises.

14. Where was your role in the hierarchy of the organisational structure at QEUH/RHC at handover 2015?

A Project Director.

15. Who did you report to, (name(s) and role(s))?;

A Mr Robert Calderwood, Chief Executive.

16. Describe your relationship with your supervisor in this role.

A My relationship with Mt Calderwood was positive and Professional.

17. Please tell us which staff reported to you, and who you were responsible for in this role, and your relationship with them.

A In accordance with the project organisational structure, Mr Peter Moir the Deputy Project Director and NEC3 Project Manager. My relationship with Mr Moir was positive and professional.

18. How was communication between you and your colleagues? What communication issues, if any, arose?

A Communication was effective and efficient. I do not recall any significant communication issues with my colleagues. I endeavoured to instil a One Team culture which included the external consultants as they were a key project resource for their expert knowledge and experience in the built environment.

19. How did you keep a record of work delegated?

A No formal records were kept. Activity schedules were not employed during the project. However, regular progress meetings were held with the project delivery team where ongoing deliverables were discussed and agreed to ensure that the construction programme was being achieved. It should also be note that external consultants also attended the meetings. It is my recollection that minutes of meetings with action owners were produced.

20. How was delegated work supervised?

A To answer this question, I require more context but for example, my recollection is that a quality assurance process was used for the Reviewable Design Process (RDD).

a) Question for Witness: If no formal records were kept for work delegated, how was this supervised and followed up on?
[Type your answer here]

b) Question for Witness: Please describe the quality assurance process used for the RDD process. Who was involved, and what was entailed?
[Type your answer here]

21. Which other QEUH teams or departments, if any, did you work closely with?

A Examples include; Infection Control, Nuclear Medicine, Facilities Management, Procurement, Finance, Chief Executives Office, Human Resources, Health and Safety

22. Please describe your working relationship with these QEUH teams or departments

A My relationship was professional.

23. What concerns, if any, did you have about any member of staff? If so, please describe these concerns. What action, if any, did you take in relation to these concerns?

A The Director of Diagnostics appointed a member of her team to join the core project delivery team to assist with commissioning of diagnostic equipment which, I agreed to before consulting the team. My decision was not welcomed by certain team members, and I was advised that it would likely cause disruption and disharmony. I had to advise the Director of Diagnostics that the individual could not join the team and this was agreed.

a) Question for Witness: When was this? What caused the protentional for disruption and disharmony? What was the impact, if any, of not allowing the individual to join the team? What was the impact, if any, on commissioning of diagnostic equipment? Who carried this out and when?
[Type your answer here]

b) Question for Witness: Who was the Director of Diagnostics at the time, and who was team member in question?
[Type your answer here]

24. What concerns, if any, were ever raised about management/ managers? If so, please describe these concerns. What action, if any, did you take in relation to these concerns?

A I do not recall any material concerns being specifically raised about management/managers.

D. Training

25. What formal training or qualifications do you have in of the following:

a) Water

A None. It should be noted that the job description did not require specific Expertise this area.

b) Ventilation

A None. It should be noted that the job description did not require specific expertise in this area.

c) Infection Control

A None. It should be noted that the job description did not require specific expertise in this area.

If so, can you go into more depth about any training and qualifications? – (When trained? When qualified? Who was the awarding body?) Please describe how the training and qualifications were relevant to your work at QEUH.

26. What specific roles or duties have you had in water systems operation or maintenance? How long did you have these roles and duties?

A None. No specific roles due to a dependency on others with specific role/ duties and expertise. This is not unusual for a Project Director or Director of Facilities role.

27. What are the legal responsibilities/ obligations when working with the water systems?

A Compliance with statutory obligations, best practice and guidance.

28. If you did not have any roles or responsibilities in relation to the water systems operation or maintenance:

a) Who did?

A Estates Operations Team

b) What were these responsibilities?

A To ensure compliance with statutory obligations, best practice and guidance

c) What did you understand the responsibilities to be?

A To ensure compliance with statutory obligations, best practice and guidance

d) What are the legal obligations/ responsibilities?

A To ensure compliance with statutory obligations, best practice and guidance

29. What specific roles and duties did you have in the ventilation systems operation or maintenance?:

A None

a) If you did not have any roles and responsibilities in the ventilation systems operation or maintenance, Who did?

A Estates Operations Team

b) What were these responsibilities?

A To ensure estate related infrastructure was maintained in accordance with recognised best practice and guidance.

c) What did you understand the responsibilities to be?

A To ensure compliance with statutory obligations best practice and guidance.

d) What are the legal obligations/ responsibilities?

A To ensure compliance with statutory obligations, best practice and guidance

30. What large scale water systems had you worked on before the QEUH? What large scale ventilation systems had you worked on before the QEUH? If so, when? How did this compare to working on the QEUH? What was your role and duties?

A It is important to clarify that most of the complex projects I have worked on have been in the capacity as a Project Director or Director of Estates / Facilities Management. All of these projects had an appointed design teams

who were selected on their professional experience in designing and overseeing construction of the commissioned building. Also, I had a hierarchy of experienced internal resources and retained consultants to deliver project management services in accordance with approved designs and specifications in accordance with the terms and conditions of contract. As a comparison to the QEUH, I would reference the Princess Noura bint Abdul Rahman University, Kingdom of Saudi Arabia which in terms of scale was significantly larger in scale but equally as complex if not more. Refer to my CV. I acted as the Interim Director of Facilities with a role to lead a large and diverse multinational team to mobilise the establishment of asset management and facilities management services post construction.

E. Design and Construction and Role in the QEUH/RHC Project

31. The Inquiry understands that you took on the role of Project Director in June 2013, taking over from Alan Seabourne.

a) Describe the handover process, if any, between you and Alan Seabourne when you took on the role of Project Director.

A. I officially took on the role of Project Director at the end of July 2013. We met periodically to enable Mr Seabourne to brief me on the project. Mr Seabourne encouraged me to spend most of my time with Mr Peter Moir, Deputy Project Director and NEC 3 Project Manager and Mr David Hall, consultant project manager as they had more knowledge regarding the day to day management of the project.

b) Please confirm how the long the handover process was between you and Mr Seabourne, how was the terms of your handover recorded and where would records of these handover discussions and arrangements have been kept. What information was transferred between and Mr Seabourne during the handover process?

A. The handover process between Mr Seabourne and me took place from when I joined NHS GGC in June 2013 until he retired in July 2013. Mr Seabourne was clear that he remained in charge of the project until the date of his

retirement. I cannot recall exactly how the meetings were recorded but, I would expect that I kept my own set of notes. I am unable to recall the precise information transferred between me and Mr Seabourne and am not aware of where the records have been kept by him.

c) What concerns, if any, did Mr Seabourne raise with you regarding the water and ventilation system?

A. I do not recall Mr Seabourne raising any concerns about the water and ventilation systems with me.

d) What information, if any, did Mr Seabourne provide you with regarding the ventilation derogation as provided for in the M&E Clarification log? What advice or information, if any, did Mr Seabourne provide you with regarding the ventilation derogation?

A. I do not recall that Mr Seabourne provided me with information regarding the derogations in the M&E Clarification log. However, I am aware that there is an email which was discussed with the Medical Director when she attended the inquiry written by me to Douglas Ross, Currie & Brown and cc'd to Mr Seabourne asking for information about the derogations. Mr Seabourne responded to my email explaining the rationale for the decision to proceed with the derogations. I can only make reference to the e mail due to the Counsel to the Inquiry making reference to it when questioning the Medical Director and have not had access to a copy of it.

e) Question for Witness: Refer to **Bundle 12, document 104, page 813**. Is this the email you are referring to above? Was this this first time that you were made aware of concerns being raised surrounding this derogation?
[Type your answer here]

f) Question for Witness: What was the background to you writing this email to Mr Seabourne? At the time, what concerns, if any, did you have in respect of the ventilation system?
[Type your answer here]

g) What information, if any, did Mr Seabourne provide you with regarding the proposal at the time to accommodate the BMT patients from the Beatson at the QEUH/ RHC campus?

A. I do not recall Mr Seabourne providing me with any information regarding the proposal at the time to accommodate BMT patients.

h) Question for Witness: When then did you become aware of the intention to accommodate the BMT patients from the Beatson? What concerns, if any, did you have at the time regarding this proposal? With the benefit of hindsight, are you concerned that this was not discussed with you at the time? What could have been the rationale for not discussing this with you?
[Type your answer here]

32. Explain how the output for the design of the Wards was confirmed and signed off. In doing so describe the purpose of the clinical output specification, and your involvement.

A. When I joined the project in June 2013, the design and specification for the wards had already been agreed and signed off by NHS GG&C. I had no involvement in this.

33. Explain the purpose of the guidance relied upon by the design team and why this was important.

A. I joined the project after the design process was finalised.

34. The Inquiry understands that drawings and Room Data Sheets (RDS) were approved through the Reviewable Design Data (RDD) process. Describe your role, if any, in the RDD process and User Groups.

A. I had no role in the RDD process.

a) How were members selected to be part of a user group?

A. I am unaware of how the members were selected.

b) Confirm who attended the user groups meetings from IPC, Estates, Clinical and the GGC Project Team for the following areas: Ward 4B – QEUH; Ward

4C – QEUH; Level 5 – QEUH; Critical Care – QEUH; Ward 2A & 2B – RHC; PICU RHC – RHC; All Isolation rooms

A. I do not know who attended the meetings.

c) How often were user group meetings scheduled to review design proposals and agree the design with the user groups

A. I do not know how often user group meetings were scheduled.

d) How were drawings and the RDS approved to proceed to construction.

A. I do not know how the approval process worked as I was not in post at the time.

e) Describe your involvement in the design and RDD process for the Schiehallion unit, PPVL and BMT rooms and PICU in the RHC

A. I had no involvement in the design and RDD process.

f) Describe your involvement in the design and RDD process for the spaces to house immunocompromised patients, Ward 4C, Ward 4B - BMT Unit, Infectious Diseases and the Critical Care Unit in the QUEH.

A. I had no involvement in the design and RDD process

g) Describe your involvement in the design and RDD process for Isolation rooms.

A. I had no involvement in the design and RDD process.

35. Please describe how the technical requirements (air change rates, pressure differentials and filter requirements) for the rooms were managed and approved, including your role and involvement.

A. I had no involvement in specifying the technical requirements for the rooms as I was not in post at the time.

36. What guidance was considered in the design of wards to accommodate immunosuppressed patients, what processes were in place to ensure guidance compliance? Were there any changes to the design during the

design and build, if so, please describe any such changes, describe the impact, if any, on guidance compliance, and described the sign off process for any such changes, your involvement and how any changes were communicated to the Board. Was external advice ever sought in respect of design changes?

A. This question should be addressed to a member of the Project Team with responsibility for developing the specification and related derogations at the pre contract stage.

37. Who was responsible for confirming filtration and HEPA requirements and who approved this from the GGC Project Team?

A. I do not know who in the Project Team approved nor signed off the requirements. NHSGGC will have records of this process.

38. Was the design and/or specification of the ventilation system as recorded in the Building Contract, in particular in the M&E Clarification Log **(please refer to Bundle 16, Document No. 23, Page 166**) compliant with NHS Guidance?

a) If not, please explain:

(i) Why this design was proposed; and

(ii) Why this design as accepted.

(iii) What role, if any, BREEAM played in the acceptance of this design.

A. I was not in post at the time when the M&E clarification log was finalised.

b) If you are of the view that it was compliant, please explain why, with particular reference to SHTM 03-01 2009 (Ventilation Design) **Please refer to Bundle, 16 Document No. 5, Page 342.**

A. Please see response to a) above

39. The Inquiry is aware of the agreed ventilation derogation recorded in the M&E Clarification Log. **Please refer to Bundle 16, Document No. 23, Page 166.**

a) What was the scope of the agreed ventilation derogation recorded in the M&E Clarification Log?

A. The scope of the agreed ventilation derogation is included in the M&E Clarification Log.

b) When did you first become aware of it and how?

A. See answer to Q 31d. Mr Seabourne responded to an e mail from me to a consultant in which he explained the rationale for the derogations. I cannot recall the precise date. The email was mentioned by the Counsel to the Inquiry when the Medical Director was providing oral evidence.

c) Was the agreed ventilation derogation restricted to general wards only?

A. I do not recall if the ventilation derogation was restricted to general wards only. This information should be available from NHS GG&C.

d) If so, how is this interpretation evidenced within the documentation (such as the M&E Clarification Log) and where is the specification located for areas that required specialist ventilation and isolation rooms?

A. Type your answer here

e) Who else from the GGC project Team and Board were aware of the Ventilation derogation?

A. I think this is a question for members of the Project Team who were in place when the derogation was approved in 2010.

f) What action, if any, did you take to escalate your knowledge the derogation to the Board? If you did not take any action, why not?

A. The derogation had been approved in 2010. I do not recall if I escalated the derogation to the Board when I took up my post in 2013.

g) How was the agreed ventilation derogation signed off by the Board?

A. I am unaware of how the agreed ventilation derogation was signed off by the Board as it was before I joined the project. I would expect that there are records retained by NHS GG&C.

40. When did you first become aware of the ZBP Ventilation Strategy Paper dated on or around 15 December 2009? **Please refer to Bundle 16, Document No.21, Page 1657**

A. The paper was written before I joined the project in 2013. I do not recall being provided with a copy of the report.

a) What action, if any, did you take when you became aware of this document and why? If you did not take any action please explain why not.

A. Please refer to my answer above

b) What concerns if any did you have on reading this document?

A. Please refer to my answer above.

41. What risk assessments (if any), whether in compliance with the standards in HAI Scribe or otherwise, did GGC carry out or have carried out in respect of the change in the ventilation strategy that appears to follow the ZBP Ventilation Strategy Paper dated 15 December 2009? **Please refer to Bundle 16, Document No.21, Page 1657**

A. I am unaware of any risk assessments being carried out. This question would be best asked to a member of the Project Team in place in 2009.

42. In respect of any detonations/ departures from guidance which senior IPC individual was responsible for signing this off?

A. I am unaware of which senior IPC individual was responsible for signing off the derogations/ departures. I would expect that there is a record held by NHS GG&C.

43. Describe your involvement and understanding, if any, of the decision to remove carbon filers? What was the rationale behind this decision, who was involved and what advice, if any, was sought in reaching this decision?

A. I had no involvement and therefore, unable to answer this question.

44. Describe your involvement and understanding/ knowledge, if any, in the removal of the maximum temperature variant? **(please refer to Bundle 17, Document No.26, Page 1063)**. Why was the decision taken and by whom? What risk assessments, if any, were taken prior to making this decision? What was the impact, if any, in removing the maximum temperature variant?

A. I was not involved in a decision to remove the maximum temperature variant and not aware of why this decision was taken nor, who approved it.

45. Describe your involvement and understanding, if any, in the decision to use chilled beams. Why was the decision taken and by whom? What risk assessments, if any, were taken prior to making this decision? What investigation was made into their use in healthcare settings? What was the impact, if any, in using chilled beams?

A. I was not involved in the decision to specify chilled beams. The decision to specify chilled beams was taken before I joined the project and therefore, this question should be referred to a member(s) of the project team who were involved at that time. After occupancy of the hospital an issue relating to condensation forming on the underside of the beams emerged with resultant mitigations required. The use of chilled beams was recorded in the final M&E Clarification log in 2010.

F. Horne Taps

46. Describe your involvement, if any, in respect of the decision to use Horne taps.

A. I was not involved in the decision to use Horne taps.

a) What concerns, if any, did you have regarding the use of Horne taps?

A. I am unaware of risk assessments being carried out

b) Question for Witness: Were you aware of or did you have any concerns regarding the use of Horne Taps at the time? Please refer to the statement of Ian Powrie Q177 (h) page 136. Mr Powrie escalated concerns to you regarding Horne Taps following an SBAR (copy to be provided) pertaining to the issues in using Horne Taps following the deaths associated with their use in Northern Ireland. Horne advised Mr Powrie that the flow straighteners could not be removed. Were you at this point, aware of the concerns associated with the use of Horne Taps?

[Type your answer here]

c) What risk assessments were carried out in respect of the use of Horne taps?

A. I am unaware of risk assessments being carried out

d) Question for Witness: Given that the risks advised of by Mr Powrie, why was no risk assessment carried out?

[Type your answer here]

e) Who was involved in, and who signed off the use of Horne taps?

A. I do not know who signed off the use of the use of Horne taps. I would expect that NHSGGC will have records which confirm the process and approval(s).

f) Did you attend the meeting regarding the use of Horne taps in 2014? If so, why was the decision made to proceed with Horne taps?

A. I have been advised by the inquiry team that the meeting was held on 5th June 2014 and, I was not in attendance. The meeting was chaired by Health Facilities Scotland and the chair of the meeting may be able to confirm why I was not invited to attend and, why the decision was taken to proceed with the Horne taps.

g) Did the use of Horne Taps depend on thermal disinfection? If so why, if not why not? What action, if any, was taken regarding this, and your involvement, if any. Please explain you

A. I am unable to answer this question for the reasons noted above.

h) Question for Witness: In his statement to the Inquiry at page 137 Mr Powrie states:

'*Following this meeting HPS issued an SBAR concluding that despite Hornes argued position, HPS remained of the opinion that the Flow straightener presented a risk and should be removed, the SBAR provided 3 options for NHS GGC as a way forward on this issue. David Loudon was of the opinion that the QEUH had already installed the Horne TMT's and should be treated as an existing site like other hospitals where the above guidance advised that*

there was no need to replace existing outlets under this guidance. David raised this with HFS who updated the SHTM 04-01 to allow for such contract situations. David Loudon then decided to proceed with the Horne TMT's as agreed under the contract due the risk to the project programme. David did not discuss the implications for maintenance of these TMT's as a result of this decision.'

(i) While the Inquiry understands from your answers that you did not attend the meeting of 5th June 2014, do you agree that you were aware of the discussions which took place at the meeting?
[Type your answer here]

(ii) Describe the action you took in respect of having HFS update the SHTM guidance as referred to by Mr Powrie. Why did you seek to take this action?
[Type your answer here]

(iii) What were the *'risk to the project programme'* Mr Powrie refers to?
[Type your answer here]

(iv) What was the reason for proceeding with Horne Tap installation despite the concerns surround flow straighteners?
[Type your answer here]

(v) What steps did you take, if any, to ensure that adequate maintenance schedules and operations were put in place to deal with the Horne Taps?
[Type your answer here]

(vi) Was it your decision to proceed with the use of Horne Taps following the meeting of 5th June 2014, if so, how was this decision communicated to and signed off by the Board? If it was not signed off by the Board, why not? If it was not your decision to proceed with the use of Horne Taps, who made this decision, when did you become aware of it, how was it communicated to and signed off by the Board?
[Type your answer here]

G. Ward 4B and 4C

47. The Inquiry understands that Ward 4B in the QEUH was originally intended to provide accommodation for Renal and Haemato-oncology. The 2009 NHS Clinical Output Specification for the Haemato-oncology ward confirmed "Please note the haemato-oncology ward area has a very specific function and a considerably higher than average requirement for additional engineering support/infrastructure. There should be no opening windows, no chilled beams. Space sealed and ventilated. Positive pressure to rest of the hospital and all highly filtered air >90%, probably best HEPA with adequate number of positive pressure sealed HEPA filtered side rooms for neutropenic patients as in the Beatson West of Scotland Cancer Centre." **Refer to Bundle 16, Document No.15 , Page 1595.** However minutes from the Quality and Performance Committee dated 2 July 2013 **Document A40241860 to be added to Bundle** and the Change Order Request in July 2013 by Jonathan Best **(Bundle 16, Document No.29, Page 1699)** confirm that the Bone Marrow Transplant (BMT) service would transfer to Ward 4B in the QEUH and the haematology patients that were originally planned to accommodate Ward 4B would move to Ward 4C.

a) Please confirm how this change was communicated to the project team and Multiplex and how this change was captured in the design and specification documentation.

A. I cannot recall how this change was communicated to the project team but note that the paperwork commencing at page 1669 is the standard documentation for the change control procedure.

b) Question for Witness: How was this communicated to Multiplex? When and how did you become aware of the decision? How was this change captured in the design and specification? What was your involvement, if any, in this decision?

[Type your answer here]

48. The Inquiry understands that 10 rooms were provided for Haemato-oncology patients (Rooms 66 to 75) in Ward 4C, these rooms had no HEPA filtration,

2.5 – 3 ACH per hour, included chilled beams; rooms were at a balanced or slightly positive pressure to the corridor and had suspended ceilings fitted in patient bedrooms and ensuites.

a) Who approved and signed off on this specification for the Haemato-oncology patients to be accommodated in Ward 4C?

A. I do not know who approved this specification. I would expect that the design and specification would have been approved and signed off in accordance with the RDD process. I would also have expected that the change(s) would have been approved within the project governance structures.

49. Describe the IPC involvement in the design of Ward 4C, who was involved and who signed off the final design and when.

A. I cannot recall who was involved from the IPC but would expect that it was Professor Craig Williams in his capacity as IPC lead.

50. In respect of the BMT Unit the Inquiry has heard evidence from Professor Craig Willaims during the hearings commencing 20 August 2024, that he asked you specifically if you were aware of any problems in respect of the BMT unit and that he was told by you that you were not aware of any such concerns.

a) What documentation did you have sight of in order to enable you to make this statement?

A. I understand that this question is in relation to Professor Craig Williams written statement in response to inquiry question 109. I do not recall making this statement to Professor Williams. However, I note that he makes reference to e mails addressed to myself, Tom Walsh and Grant Archibald. I would request sight of the e mails to enable me to consider a fuller response to this question. Notwithstanding, I also note that Professor Williams confirms that both Grant Archibald and myself recognised the urgency and nature of the problem. In response, I would have taken action to have the defects remedied by Brookfield Multiplex. I think I am correct that Hepa filters were located by Brookfield Multiplex in Ireland and were delivered over a weekend to be installed the following week.

b) Question for Witness: Please describe the problem and defects you refer to.
[Type your answer here]

c) Question for Witness: The Inquiry understands from your answer above that this was prior to patient migration. Is this correct?
[Type your answer here]

d) Question for Witness: Save for the HEPA filters which you have referred to above, how satisfied were you with the suitability of the BMT unit prior to patient migration?
[Type your answer here]

e) Question for Witness: The Inquiry understands that there were issues with the BMT which presented almost immediately following patient migration, so much so that the patients returned to the Beatson from QEUH in July 2015. Refer to **Bundle 12, document 30** for reference. This being the case, how were patients allowed to migrate to the QEUH in the first place? What risk assessments has been carried out prior to patient migration? Who signed off on patient migration?
[Type your answer here]

f) How were you satisfied that there were no concerns surround the BMT Unit?

A. As noted above, I do not recall making a statement to Professor Craig Williams that I was satisfied that there were no concerns when it was noted that defects were apparent.

g) With the benefit of hindsight, do you now agree with this statement. Please explain your answer.

A. I would refer you to my answers in a) and b) above.

51. In respect of PPVL rooms please describe your understanding of the detailed design and proposed use of them. Who signed off the design? What IPC involvement was there in the design and sign off process?

A. I am not an expert in the detailed design of Positive Pressure Ventilated Lobby rooms and would rely on professional designers. I am unaware of who signed off the design and unsure of the IPC involvement.

a) Dr Peters raised concerns with Jackie Barmanroy in late 2014. What is your recollection of these concerns? Do you agree with Dr Peters oral evidence that the PPVL rooms didn't look like they were negative pressure? What action, if any, did you take following Dr Peters concerns? Who signed off the PPVL rooms?

A. I have no recollection of concerns being raised by Dr Peters to Jackie Barmanroy. I do not recall who signed off the design and specification of the PPVL rooms.

b) Question for Witness: With the benefit of hindsight, should you not have had an awareness of these matters?
[Type your answer here]

c) Question for Witness: Please refer to document **BMT REPORT - V3 - 25th FEBRUARY 2016 (A41683176) to be bundled**.

(i) Prior to the upgrade works being carried out, did the ventilation specifications in Ward 4B meet the requirements of SHTM03-01?
[Type your answer here]

(ii) Following completion of the upgrade works, did the ventilation specifications in Ward 4B meet the requirements of SHTM03-01?
[Type your answer here]

(iii) Infection Control staff are referred to as 'supporting sign off of the rooms', was this done prior to patient migration in June 2015, and if not why?
[Type your answer here]

H. Ward 2A/ 2B RHC

52. The Inquiry understands that Ward 2A/2B is the paediatric-oncology Unit and includes the Teenage Cancer Trust and the paediatric Bone Marrow Transplant (BMT) Unit - the department is known as the Schiehallion Unit.

a) Confirm your understanding regarding the intended use and purpose of the Ward 2A/ 2B, what guidance was considered in the design of these wards, what processes were in place to ensure guidance compliance?

A. The design process for Ward 2A/B was undertaken and completed prior to me joining the project in 2013. Members of the Project Team who were involved in the process at the time would be best placed to answer this question.

b) Question for Witness: From the point when you started in your role at QEUH, what was your understanding of the intended use and purposed of Ward 2A/B? What were you aware from the point of your appointment, of having been done to ensure guidance compliance?
[Type your answer here]

c) What changes, if any, were made to the design during the design and build? Please describe any such changes, describe the impact, if any, on guidance compliance, and described the sign off process for any such changes, your involvement and how any changes were communicated to the Board. Was external advance ever sought in respect of design changes?

A. I am not aware that changes were made during the design and build stage pre-contract and, its impact on guidance compliance. I think that this is a question for the Project Team in place at the time.

d) Question for Witness: The question is not specific to pre-contract. Please answer in respect of your awareness, if any, from the point you commenced your role at QEUH/ RHC.
[Type your answer here]

e) Describe the IPC involvement in the design of Wards 2A and 2B, who was involved and who signed off the final design and when.

A. I am unaware of the IPC involvement in the design sign off for Wards 2A and 2B and who signed it off and when. I would expect that records are available to confirm.

f) What concerns, if any, did you have regarding the final design specification of Wards 2A and 2B, and what action, if any, did you take in respect of these concerns?

A. I was not involved in the final design specification of Wards 2A and 2B.

g) Question for Witness: At the point from you starting your role at QEUH what concerns, if any, did you have regarding the final design specification of Wards 2A and 2B, and what action, if any, did you take in respect of these concerns?

[Type your answer here]

I. Isolation Rooms

53. How was the number and location of isolation rooms agreed? Who approved the final number and locations in the QEUH and RHC?

A. I am unaware of how the number of isolation rooms were agreed and who approved the final number and locations. I would expect that there is a record of the decision-making process and would have included wide consultation.

54. Who was responsible for producing the drawings and the specification for isolation Rooms; who approved these from the GGC Project Team?

A. I am unaware of who was responsible for producing the specification and drawings. I would expect that records will be available.

55. What concerns, if any, did you have regarding isolation rooms and compliance with SHTM/HTM? What action, if any, did you take in respect of any such concerns?

A. I do not recall having concerns regarding the isolation rooms when joining the project nor, was I advised at that time of compliance concerns with SHTM/HTM compliance.

a) Questions for Witness: When, if at all, did you become aware of any issues/concerns in respect of the isolation rooms? At that point, what were those issues/ concerns and what actions did you take in response to this?
[Type your answer here]

b) Question for Witness: Please refer to document **BMT REPORT - V3 - 25th FEBRUARY 2016 (A41683176) to be bundled, page 6**

(i) Do you agree that at the time of writing that report that the isolations rooms in RHC did not meet the requirements of SHPN 04? If so, how did these rooms come to be accepted at handover?
[Type your answer here]

(ii) How was liability and responsibility established in respect of works to the isolation rooms in RHC?
[Type your answer here]

c) The Inquiry has reviewed the RDS in excel format and note there is an entry under 'Design Notes' relating to Ward 2A isolation rooms; the entry states: WARNING NOTICE: This room is based on a theoretical design model; which has not been validated (see paragraph 1.8 of HBN 4 Supplement 1). Specialist advice should be sought on its design. The lamp repeat call from the bedroom is situated over the door outside the room.

(i) Was this note entered on the RDS? If so, why and by whom?

A. I am unaware if this note was added to the Room Data Sheets notes and if so, by whom.

(ii) What specialist advice, if any, was sought relating to the design of these rooms?

A. I am unaware if specialist advice was sought as I was not involved in the design and specification for the isolation rooms. I would expect that a record will be held to help answer this question.

(iii) What was the final agreed design for isolation rooms and who approved this?

A. The final design for the isolation rooms should be held on record via the RDD process. I am unaware of who approved the final design.

d) What ceiling types were specified and approved for use in isolation rooms? Who from the GGC Project Team approved this? Describe your involvement, if any? What was the impact, if any, of the choice of ceiling tiles? What concerns, if any did you have regarding the choice of ceiling tiles?

A. I cannot recall specifically the ceiling types specified and approved for use in the isolation rooms. This would have been recorded and approved in the RDD process and would have been approved by a member of the Project Team.

J. Handover, Commissioning and Validation

56. Describe the Infection Prevention and Control (IPC) input, if any, in respect of critical ventilation. What was the process for obtaining input, who from IPC was involved. Describe the IPC involvement of signing off on critical ventilation. What was the process, who from IPC signed off on critical ventilation, when, and by whom. Was there an audit trail of IPC involvement and sign off, if so, where would this have been kept?

A. I think that members of the Project Team engaged with the IPC to provide copies of the commissioning data. I do not recall specifically who was involved but expect that it was one or more of the IPC team involved with the project. The audit trail should have been kept on file by the Project Administrator.

a) Question for Witness: Who was the Project Administrator?
What visibility, if any, did you have in respect of validation? Were you aware of it being carried out/ did you have sight of validation documentation, if so when and in respect of what areas of the hospital?
[Type your answer here]

b) Question for Witness: Who was responsible for the Project Team, was this not within the remit of your role as Project Direction? If this was not within your remit, who was responsible and what was the reporting line between them and you as Project Director?
[Type your answer here]

57. In respect of commissioning and validation please confirm the following:

a) Describe your role in the lead up to commissioning. What action, if any, did you take to ensure that the wards within RHC and the QEUH met the guidance requirements of SHTM.

A. During the lead up to commissioning, I was reliant on the NEC3 Project Manager, the Project Managers and appropriate consultants to keeping me appraised of progress with the commissioning and validation of the compliance of the works with the approved specification. For clarity, this would include the approved derogations. In the event where concerns were escalated to me I would have sought a resolution from Brookfield Multiplex's Project Director.

b) Question for Witness: What concerns, if any, were escalated to you? Who was Multiplex's Project Director? What action did they take when concerns were escalated to them?
[Type your answer here]

c) Question for Witness: What assurances, if any, did you receive from the NEC3 Project Manager and Project Managers that appropriate commissioning and validation had been carried out?
[Type your answer here]

d) Describe what commissioning of the water and ventilation system took place prior to handover, and your involvement, if any.

A. The commissioning of the water and ventilation system were the responsibility of Brookfield Multiplex as stated in the contract. The Supervisor (Capita) were responsible for witnessing and validating the commissioning data provided by

Brookfield Multiplex on behalf of the Project Team. I had no day-to-day involvement in the commissioning process.

e) Question for Witness: How were you satisfied that this had been carried out?
[Type your answer here]

f) Who was responsible for ensuring that commissioning of the water and ventilation system was carried out, and who signed off that it had been carried out? What concerns, if any, did you have regarding commissioning and validation being carried out prior to handover?

A. Brookfield Multiplex was responsible for ensuring that the commissioning of the water and ventilation system were carried out in accordance with the terms and conditions of contract. Brookfield Multiplex's commissioning team which was led by their M&E Manager were responsible for recording the results of the commissioning. Capita acting on behalf of NHS GG&C were responsible for validating the commissioning result and providing assurances to the Project Team. I do not recall having any specific concerns about the commissioning.

g) Was the energy centre commissioned prior to NHS GGC taking occupation of QEUH? If so, describe what you know about the commissioning of the energy centre. Provide details of the intricacies in relation to its completion

A. The Energy Centre was constructed, commissioned and handed over before I joined the project and, NHS GG&C took occupation of the hospitals.

h) Question for Witness: The Inquiry understands that at least in part the energy centre was retained, with it being partially handed over to allow for day to day operation of the QEUH site. Ian Powrie has told the Inquiry that he prepared a paper for you regarding this matter (page 49 Ian Powrie statement). Please describe your understanding of the situation, involvement, and impact, if any, of the energy centre being retained.
[Type your answer here]

i) Question for Witness: Mary Ann Kane tells the Inquiry that you left her this as her first task as interim director on your departure from QEUH. Please describe the circumstances leading to this and the issues involved.
[Type your answer here]

j) Question for Witness: Can you confirm whether Mercury had an active role in resolving the CHP commissioning challenges, and if so, how effective was their involvement?
[Type your answer here]

k) The Inquiry understands that NHS GCC decided to forgo the requirement to have an independent commissioning engineer. Who made this decision? What was the impact, if any, of this decision? In hindsight, do you think that it was the correct decision?

A. I do not recall who made the decision to forgo the requirement to have an independent commissioning engineer but, it will be recorded on the Compensation Event log which was managed by the Project Administrator. I am awaiting information relating to the Compensation Event Log for further clarification. However, it should be noted that Capita who were employed as the Project Supervisor had responsibility for checking and validating commissioning data prepared by Brookfield Multiplex sub-contractors. It should be noted that Brookfield Multiplex had their own M&E Manager who was responsible for assuring the commissioning processes and related data. On reflection, I think that the Board should have retained an independent commissioning engineer. However, it is noted in Bundle 26 PP13 at 6.8.1 that it was envisaged that the contractor would appoint an independent commissioning engineer.

l) Question for Witness: What was the impact, if any, of this decision? Why did you note in reflect that the Board should have retained an independent commissioning engineer?
[Type your answer here]

m) The Inquiry understand that no validation was carried out in respect of the ventilation system. When did you become aware of this? How did handover come to be accepted without the ventilation system being validated? Who was responsible for this and who signed off on this?

A. I do not recall being made aware that validation was required to be carried out over and above the building contract commissioning and validation process. Had I been made aware then, I would have intervened accordingly. If validation was the responsibility of NHS GG&C then, I would expect that the responsibility for arranging the validation process would have fallen to the estates operations team to ensure independence from the contactor and Project Team. The responsibility for accepting the hospitals in accordance with the terms and conditions of contract sat with the NEC3 Project Manager. Had validation been carried out on the ventilation system, it would have confirmed that it was not in accordance with the air changes noted in the guidance. However, attention is drawn to the derogations approved by NHS GG&C. I would expect that when making the decision to approve the derogations, the departure from the guidance notes was known, assessed and accepted.

n) Questions for Witness: In reference to your answer provided above, what validation, if any, were you aware of having been carried out and by whom? What evidence did you see to support this?
[Type your answer here]

o) Question for Witness: When, if at all, did you become aware that validation of the ventilation system had not taken place?
[Type your answer here]

p) Question for Witness: What is the impact, if anything, on validation having not been carried out?
[Type your answer here]

q) Question for Witness: Was it not within your remit as Project Director to have ensured that all commissioning and validation was carried out in order to

accept handover? If this was not your responsibility, whose responsibility would it have been?
[Type your answer here]

r) Question for Witness: What assurances, if any, were you provided with to satisfy yourself that all necessary commissioning and validation had taken place prior to handover?
[Type your answer here]

s) Professor Craig Williams has given evidence to the Inquiry during the hearings commencing 20 August 2024 that the Project Team provided him with assurances that validation was carried out and had been done appropriately. How were the Project Team able to make these assurances given that validation had not be carried out in respect of the ventilation system?

A. I do not recall the Project Team providing assurances to Professor Craig Willams that validation has been carried out.

t) Question for Witness: How do you think Professor Williams and those in IPC came to be assured/ advised that ventilation had been carried out?
[Type your answer here]

u) Question for Witness: Mary Ann Kane has further advised the Inquiry that you advised her that commissioning and validation of both the water and ventilation system had taken place at handover. Do you agree with this statement?
[Type your answer here]

58. Describe your role in the lead up to accepting handover.

a) At the point of handover, how satisfied were you that all areas of QEUH/RHC accepted by NHS GGC, were designed to the intended specification and suitable for the intended patient cohort, meeting all the relevant guidance requirements?

A. At the point of handover, I was not made aware of any accepted areas not being in accordance with the agreed contractual specifications and designs including, the approved derogations.

b) How were you assured that the wards met the requirements of the specific patient cohorts?

A. I would have met the Deputy Project Director and NEC Project Manager, Project Managers, consultants to discuss progress with the handover process and to discuss any areas of concern regarding compliance with the approved specification and derogations.

c) Question for Witness: Were you specifically advise that all areas of the hospital met the requirements of the relevant patient cohorts, including meeting the request guidance requirements relative to the individual patient cohort needs, and if so by whom?
[Type your answer here]

d) Were any wards not handed over, or only partially handed over, please confirm. If so, why they were they held back? Was there any financial consequence to both Multiplex and NHS GGC of the ward(s) being held back? What works were carried out in order to allow this ward(s) to be handed over to the NHS GGC?

A. I do not recall if any wards were not handed over nor, do I recall the financial consequences to either Multiplex of NHS GG&C if this was the case. I would expect that the terms and conditions of contract were applied by the commercial lead.

e) Describe the process for approving the defects listed on the stage 3 sectional completion certificate [**Please refer to Bundle 12, Document No. 3, page 23**] Who saw the stage 3 sectional completion certificate before it was signed? Why was the stage 3 sectional completion certificate signed when there were a number of outstanding defects listed?

A. I would expect that the Supervisor and Project Manager would have met with other member of the Project Team such as the project managers to review the

list of defects and either approve the list and add to them if required. I am not aware of who saw the certificate. I think there is provision on the NEC3 form of contract for sectional completion.

f) Do you think that the stage 3 sectional completion certificate accurately listed all of the defects with the QEUH/RHC? If not, please describe the inaccuracies

A. I would expect that the stage 3 sectional completion certificate was accurate and listed defects known and approved by the Supervisor and NEC 3 Project Manager.

59. Who oversaw contractual compliance? Who was responsible for ensuring that the paperwork was produced to confirm contractual compliance? What action, if any, did you take to ensure that paperwork was in place to ensure contractual compliance? Was validation of the ventilation system a contractual requirement? If so, who signed off on contractual compliance given the lack of validation?

A. The NEC 3 Project Manager would have overall responsibility for contractual compliance in accordance with the terms and conditions of the contract. However, it should be noted that the NEC 3 Project Manager would have relied on the inputs of others to support the implementation of his duties. For example, external consultants and other members of the Project Team.

60. Explain what the building contract says about a retention period in which some money would be held back pending completion of the QEUH/RHC. In doing so, please explain if the retention period was enforced?

A. I do not have access to the building contract and therefore an unable to comment of the precise wording of the contractual clause. I cannot recall if the retention period was enforced and would direct you to Currie and Brown UK Ltd who acted as the commercial lead on the project. Alternatively, the Project Administrator who managed the records system for the project.

a) Question for Witness: What was your understanding, if any, in respect of the retention period? Can you recall if the retention period was enforced?

[Type your answer here]

61. Who was responsible for providing asset tagging. Why was there no asset tagging, who decided to proceed without it?

A. The responsibility to provide asset tagging was with Multiplex. I think and, this would have to be checked, that a certain amount of asset tagging did take place to the major M&E installations but, there was an issue with the supply of the asset tags. I don't recall if a decision was taken not to proceed with asset tagging but, if there was, it may have been covered by a Compensation Event.

a) Question for Witness: The Inquiry understands that Ian Powrie escalated issued pertaining to lack of asset tagging to you. What action, if any, did you take in response to this?
[Type your answer here]

b) Question from Witness: What action, if any, was taken either by you or others to raise this as an issue with Multiplex?
[Type your answer here]

c) Question for Witness: Why was handover accepted without full asset tagging being in place?
[Type your answer here]

d) Question for Witness: What was the impact of the lack of asset tagging? The Inquiry understands from witnesses in the last set of hearings relating to QEUH that lack of asset tagging had a negative impact on Planned Preventative Maintenance (PPM). Why then was ensuring that asset tagging was in place prior to handover not a priority?
[Type your answer here]

e) Question for Witness: Were specific actions taken by NHSGGC or Brookfield Multiplex to address the challenges with the ZUTEC system? If so, could you outline them?
[Type your answer here]

f) Question for Witness: Could you provide further details on the decision-making process that allowed the handover to proceed despite the unresolved CAFM and asset tagging challenges? Were there any risk assessments or rationales documented for this?
[Type your answer here]

K. DMA Canyon

62. At handover, had a preoccupation L8 risk assessment been carried out? Who was responsible for ensuring that this was in place prior to patient migration? were you aware of a preoccupation L8 assessment having been carried out? Who instructed it? When did you become aware? Why did you not raise it as a concern that you had no seen this prior to patient migration, was this not within the remit of your role?

A. I do not recall if an L8 risk assessment had been carried out at handover. The responsibility for the L8 risk assessment would have been with the estates operations team. This was not in the remit of my role as Project Director, the responsibility would lie with estates operations.

63. The Inquiry has heard evidence during the hearing commencing 20 August 2024 regarding the DMA Canyon 2015 report. **Please see Bundle 6, document 29.** The Inquiry has heard evidence and received written evidence from Ian Powrie that you were aware that the 2015 DMA Canyon report had been ordered by him. What action, if any, did you take to follow up on the ordering of this report?

A. I disagree that Mr Powrie made me aware that he had commissioned a report.

a) Question for Witness: When did you first become aware of the 2015 DMA Canyon Report? Mary Ann Kane tells the Inquiry that she thinks that you commissioned the report.
[Type your answer here]

b) Question for Witness: Was it not within your remit as Project Director to ensure that this report had been instructed and acted upon?
[Type your answer here]

c) When, if at all, did you ask to see the report?

A. Mr Powrie did not provide me with a copy of the report.

d) Were you aware of an action plan having been made in respect of the report, if so, but whom?

A. I do not recall being made aware of an action plan.

e) What actions were you aware of having been taken in response to the report? If actions were taken, by whom and when? Were you aware of the findings of the 2015 being escalated, if so when and to whom?

A. I understand that from evidence provided by Mr Powrie to the Inquiry that no action was taken and that he had not read the report. I read this in the media. I am not aware of the report being escalated.

f) The Inquiry understands from the evidence of Tom Steele that the report became widely known in around 2018. Why was the presence of the report not known prior to then?

A. I am unaware of why the report became widely known in around 2018.

g) The 2015 report made several recommendations, what impact, if any, did the lack of action in respect of the 2015 report have on the water system at QEUH/RHC?

A. I am unaware of the impact if any regarding the lack of action in respect of the 2015 report.

L. <u>Miscellaneous</u>

64. In her written statement Dr Christine Peters states that she asked for ‘asked for risk assessments for waterborne infection in the QEUH and they were not

forthcoming from the Project Management Team, Estates, or Mary Anne Kane.' Do you recall being asked for this information? Did you provide the information requested? If so when and by what means? If not, why not?

A. I do not recall being asked for risk assessments by Dr Christine Peters. She may have asked others within the Estates Operations team for copies of risk assessments.

65. In her statement Dr Teresa Inkster states 'there was a direction from Mary Anne Kane, who was at senior director level, not to give microbiologists access to water testing results':

a) What is your reaction to this statement?

A. I do not recall this situation

b) Question for Witness: Mary Ann Kane has further told the Inquiry that you told her to obtain any such information from or direct requests to Professor Craig Williams. Why was this the case?

[Type your answer here]

c) Do you recall either making such a direction, or a direction of such coming from another member of staff? If so, whom and when?

A. I do not recall this situation.

66. The Inquiry understands that issues with ward 4B, BMT Unit first arose in July 2015. When did you first become aware of issues with the specification of Ward 4B? What was your understanding of the issues with Ward 4B, What action, if any, did you take in respect of such concerns and what was the outcome?

A. I do not recall when I was made aware of issues being raised regarding the BMT specification. I do not remember what these issues were. I do not remember what, if any, action I took in this regard.

a) Question for Witness: The Inquiry is aware that the BMT patients which migrated from the Beatson to QEUH were returned to the Beatson very soon following migration. What is your recollection of and involvement in this event,

which saw an entire Ward being returned to the Beatson almost a month following migration. What was the reason for the return?
[Type your answer here]

67. The Inquiry understands that NHS GG&C commissioned Currie and Brown to carry out a feasibility study in November 2016, to investigate a new location for the (BMT) Unit within the Queen Elizabeth University Hospital (QEUH) Glasgow campus **Refer to Bundle 23, Document No.25, Page 231.** Why was a feasibility study investigating alternative locations required? Who was this report prepared for? Who was this report shared with? What was your involvement and what concerns, if any, did you have regarding the BMT unit? What action, if any, did you take in respect of such concerns and what was the outcome

A. As the report states, it was commissioned on behalf of the Project Board and to ascertain if alternative locations to the adults hospital were feasible. I cannot recall exactly who the report was prepared for but, I would expect that it was shared with senior managers including the Medical Director and Chief Executive as part of the decision making process for the relocation of BMT from the Gartnavel General site. I think that there was a strong preference from the BMT clinicians to be located in the adults hospital due to the close proximity of other clinical facilities.

68. The Inquiry understands that you drafted a report, dated 25th February 2016 regarding the Design, Construction and Commissioning for Ward 4B, Preparation rooms within Theatre Suites and the Schiehallion Ward Ventilation **Refer to Bundle 23, Document No.77 , Page 768.** Why was this report commissioned? Who was this report prepared for? Who was this report shared with? What concerns did you have regarding the areas mentioned in the report? What action, if any, did you take in respect of such concerns and what was the outcome?

A. On reading the draft report dated 25th February 2016, the content would suggest that the environmental performance of the spaces referred to were disputed by the ICT as being non-compliant. Therefore, I would state that the report is attempting to bring clarity to the concerns expressed by the ICT

team. I think the report was commissioned because there was a difference of opinion regarding specification within the ICT team. I believe that the report would have been a reasonable record of the issues to be clarified. I cannot recall who the report was prepared for but I would expect that it was shared with the Chief Executive, Deputy Medical Director, Medical Director, ICT lead, Deputy Project Director and the Sector Estates Manager. I do not recall my concerns at the time but, it is clear from the report that I instigated a range of actions which included seeking input from the construction consultants, Brookfield Multiplex and NHS staff to seek a resolution.

69. The Inquiry understands that issues regarding the BMT isolation Rooms in Ward 2A RHC first arose in July 2015. When did you first become aware of issues with the Isolation Rooms in Ward 2A? What action, if any, did you take in respect of such concerns and what was the outcome?

A. I do not recall when I was made aware of any issues regarding the BMT isolation issues in Ward 2A in July 2015 and would need a greater context to this question.

70. The Inquiry is aware that the ventilation system in Ward 2A RHC was completely replaced resulting in the ward closing for over 3 years. When did you first become aware of issues with the ventilation system in Ward 2A? What action, if any, did you take in respect of such concerns and what was the outcome?

A. I understand that a decision was taken by the Board to replace the ventilation system in late 2018 I left NHS GGC in January 2018. I do not recall when I was first made aware of issues regarding the ventilation in Ward 2A.

71. The Inquiry understands that no negative pressure isolation rooms were provided at handover for infectious disease patients. Please explain why no negative pressure isolation rooms were provided for and what action, if any, did you take in respect of such concerns and what was the outcome?

A. I do not recall why no negative pressure isolation rooms were provided at handover. The exclusion of the rooms would have been recorded in accordance with the building contract.

72. The Inquiry understands from the evidence of Ian Powrie given in respect of the hearings commencing 20 August 2024 that you had thought that Multiplex would maintain the hospital for the 2 year warranty period. Please confirm if you made this statement, and if so, what was your rationale for doing so, confirming who advised that Multiplex would maintain the hospital for the 2 year warranty period?

A. I do not recall having a conversation with Ian Powrie and making this statement. My recollection is that the defects liability period was for a period of 2 years post completion but Multiplex was not responsible for the full maintenance of the hospital. I recollect that Multiplex was required to provide an M&E manager to provide support to the Estates Operations team. The building contract should be able to provide clarity regarding the contractual obligations.

73. How was the relationship with the infection control team?
[Type your answer here]

74. Were there any particular moments that significantly strained this relationship?
[Type your answer here]

75. Were there any unresolved issues at the time of handover that you believe were directly impacted by the dynamics with the infection control department?
[Type your answer here]

76. In retrospect, were there opportunities to resolve these issues earlier in the project timeline?
[Type your answer here]

Conclusion

77. Is there any further information that you consider to be relevant or of interest to the inquiry?

[Type your answer here]

Scottish Hospitals Inquiry

Witness Statement of

Heather Griffin

This statement was produced by the process of sending the witness a questionnaire with an introduction followed by a series of questions and spaces for answers. The introduction, questions and answers are produced within the statement.

1. Personal Details and Professional Background

1.1 Name, qualifications, chronological professional history, specialism etc – please provide an up-to-date CV to assist with answering this question. Please include professional background and role within NHS GGC, including dates occupied, responsibilities and persons worked with/ reporting lines.

A. Qualifications

2:1 BA Hons Psychology and Administration

CIM Diploma (Chartered Institute of Marketing)

State Registered Nurse

Professional History

March 1980 to Sept 1984 - Trained as a Nurse at Addenbrookes and then went on to be a Staff Nurse at Papworth Hospital.

Sept 1984 – 1988 – Left nursing to undertake an Honours Degree at Strathclyde University

1988 – 1992 – Research Assistant then Research Fellow at the Advertising Research Unit in the Marketing Department at Strathclyde University. Undertook health related research, the main client was the Scottish Government. Role included project management and analysis of large national quantitative and qualitative research projects.

June 1992- June 1993 Management Consultant at Touche Ross, I was part of the Health Sector Team. Majority of projects were assisting hospitals in developing their business cases to become Trusts.

June 1993 - 2024 – I worked for the Greater Glasgow and Clyde Health Board through its various re-organisations starting at the Western Infirmary and then the North Glasgow Trust and then Greater Glasgow and Clyde Health Board.

June 1993 - Appointed as Business Manager to the Western Infirmary, responsible for the operational and strategic management of a number of clinical services. Role included, amongst others, developing business cases and gaining funding for a number of service developments / capital project and implementation of same.

During 2000 Western infirmary joined with the Glasgow Royal Infirmary and Stobhill Hospital to become the North Glasgow Trust, I was appointed Clinical Services Manager for the Glasgow Dental Hospital and, along with the Clinical Director I was responsible for dental service provision.

Role included working with the Clinical Director, clinicians and other dental staff to collectively develop the Clinical Service Strategy for dental services for the next 5 to 10 years and from this develop a business case for facilities to support the Clinical Strategy.

Circa 2002 – joined the North Glasgow Trust Project Team as Project Manager undertaking various projects in the north hospitals working with clinical staff (doctors/nurses) and other disciplines looking at patient flows, service models, undertaking feasibility studies and developing business cases.

2003 – 2005 Asked to Project Manage the following:

Along with the Senior Estates Manager Leading a team to undertake option appraisal and develop both Outline and Full Business Case and implement the project in addressing the new decontamination standards for the 11 million surgical instruments across the north and south hospitals in Glasgow. The team involved engagement, ownership and participation of circa 40 staff from the 6 Glasgow hospitals developing new ways of working. The technical

expertise was provided by an external government agency who worked as part of the Project Team in liaison with the Senior estates Manager.
2005 – April 2015 – Asked by Senior Management to help develop the Outline Business Case for the new South Glasgow Hospital (now QEUH). I was seconded into this role as Project Manager in 2005 and remained with the project until completion of patient migration to the new Adult Hospital (QEUH) at the end of April /begin May 2015. Throughout my time working on the new adult hospital project (now QEUH) my role changed to meet the needs of the project, this is detailed below.
May 2015 Appointed as Project Manager then in 2016 as Senior General Manager in the Capital Planning Department
In 2021 I was appointed Project Director for Infrastructure Strategy (Capital Planning Department)
2024 – I retired.

Please note answers to the questions below are given to the best of my recollection as events happened between 10 to 20 years ago. I was able to access the Outline business Case and Full Business Case and used this to respond to some questions, the remaining answers are from memory. Events which were repeated multiple times or were part of an established process were easier to remember, events or meetings which were one off were much harder to remember due to passage of time.

2. <u>Site Selection</u>

2.1 Describe your involvement in the site selection process in respect of QEUH/RHC.

A. Site selection for the new adult hospital (QEUH) was undertaken before I joined the project therefore unable to provide answers for the questions below.

a) Describe the risk assessments, if any, that were carried out? What was the outcome?

b) What consideration, if any, was there in respect of the waste and recycling centre proximity to Sheildhill Waste Recycling Centre?

c) What concerns, if any, did you have regarding site selection?

d) What, if any, did you take in respect of such concerns and what was the outcome?

3. <u>Funding and Bidder Selection</u>

3.1 Describe the funding PFI changes, your involvement, why the changes were made, who signed off on the changes and what the escalation process was in respect of the Board authorising these changes.

A. From memory I was not involved in the process because this was outside my remit and knowledge base. The Outline Business Case was signed off by the Health Board before being submitted to the Scottish Government for approval in February 2008. The OBC was approved by the Scottish Government in I think around May 2008.

3.2 Describe your involvement, if any, in respect of the selection process whereby Multiplex were selected as the preferred bidder.

A. From recollection once the three bids were submitted the evaluation process took approximately 5 weeks. The evaluation was undertaken by a multidisciplinary team including amongst others: Clinical, Infection Control, Technical, Financial, Legal, Senior Managers, Facilities Management (FM) representatives

A dedicated facility was made available for the evaluation where all the documents and designs of the 3 bidders were laid out. The evaluation participants were divided into teams looking at Design, Logistics, Construction and Commercial aspects of the bids. From recollection I would estimate that there were approximately 40 participants involved in the evaluation process. Senior Management reps from different service areas were invited to visit the

facility, view the bids, talk to evaluators to ensure involvement, input and ownership.

I was a member of the 'Design Evaluation Team' along with the Associate Medical Director appointed to the Project (i.e. Project Doctor) and Senior Nurse Adviser, Infection Control, Facilities Management (FM) Representatives and other project Team members. We reviewed each bid against the set criteria. If I recall correctly the criteria and scoring system were part of the information pack given to bidders.

3.3 Why were Multiplex awarded the contract following the competitive dialogue process? What distinguished Multiplex from the other bidders to make them the preferred bidder?

A. Brookfield were awarded the contract as they were identified as the preferred bidder following an evaluation process based upon a set of pre-determined criteria. The Board issued a set of criteria which the new facilities should meet. These included, amongst others:

- Achieving good connections with the existing neurosciences and maternity buildings on the Southern General site which were at opposite ends of the site.
- Minimal disruption to the operation of the existing hospital services on the Southern General site during construction of the new hospitals and lab.
- Good functionality within the hospital with appropriate adjacencies and travel distances between departments and functions.
- Meet logistical requirements for FM and link to the new lab
- Achieve separation of travel routes through the hospital for a) patients and staff, b) visitors and c) goods in and out.
- A Sustainable low carbon solution
- An aspiring iconic design that would meet Local Authority requirements (because the hospital was very big and would be prominent on the skyline).

- Provided Value for Money within the funding available.
- Achieved strong separate identities for the adult and children's hospitals.

3.4 What distinguished Multiplex from the other bidders ?

A. The Brookfield Multiplex bid stood out from the other two bids as amongst other things they achieved:

- The links required into existing estate
- All the required co-locations between departments and functions
- Met the logistical requirements for FM and link into lab
- Achieved good patient flows, good travel times, lots of natural light into the building
- Achieved the separation of public, patients and FM travel routes
- Had strong separate identities of the adult and children's hospitals •
- Achieved an iconic looking building

My recollection was that the Brookfield Multiplex bid was not the lowest financially but that it achieved the highest number of quality points per pound

4. Design and Specifications

4.1 When did you first become involved in the design of QEUH/RHC. Please describe your role and responsibilities.

A. I was Project Manager for elements of the new adult hospital focusing on the development of the various business cases associated with the project, the Co-ordination of the User Groups, input into the Boards Redesign Groups and input into the migration workstream. I was not the Project Manager for the technical aspects of the hospital.

The following is not exhaustive but gives a flavour of my role during my time on the project.

- Co-ordinated the development of the Outline Business Case (OBC)
- Co-ordinated the development of the Full Business Case (FBC)
- Developed the respective Board papers to accompany business case submission to the Board.
- Developed the Business Cases for the 1,200 space New Office Block
- Developed the OBC and FBC Business Cases for the multi-storey car parks
- Worked with over 20 User Groups, other Project Team members and Design Team (eg architect, Healthcare Planner) to: identify critical colocations, develop the Schedules of Accommodation (SofA), Clinical Output specs (COS), Public Sector comparator (for the large specialties) and, post market, the 1:200 department layouts. From recollection I was not involved in the programme of User Group meetings to develop the 1:50 drawings as I was instead involved in the development of the Full Business Case document at this time.

- Participated in the competitive dialogue and evaluation of bids.
- Led multiple benchmarking visits for Users to see other hospitals to explore new ways of working and design ideas for the Ward, Critical Care and Acute Receiving Unit, Outpatients and Theatres Users.
- Helicopter – lead for the re-location of the then existing helipad working with RAF, Search and Rescue, Scottish Ambulance Service Pilot and lead UK Consultant. Involved in other helicopter aspects such as benchmarking and gathering information about potential aircraft.
- New 1200 workstation Office Block to support new hospitals – I was involved in benchmarking, design development, option appraisal and developed the business cases to be submitted to the Health Board and Scottish Government.
- I was a member of Board's Service Redesign Groups, for example Inpatient Elective workstream, Emergency Workstream, Outpatients workstream etc. Amongst others these groups were looking at service

redesign, patient flows, new ways of working and aspects of three hospitals moving to one such as three cultures moving to one.

- Migration – I was involved in migration group, planning, liaison with users, 3 major acute hospitals moving into one, manning command centre during transfer

From memory other areas I was involved in were:

Wayfinding -signage for the QEUH, Arts programme, Community Engagement working with the Patient engagement team. Traffic assessment, Gateway reviews, Equipment new verses transfer, undertaking information sessions for staff, briefing sessions for various senior manager and clinical groups, staff side meetings. Worked with HR and members of the Project Team in the induction and orientation of 9,000 staff. Worked with the Circa 70 nominated Service Transfer Owners (STO) for the new adult hospital, to ensure smooth transfer to the new hospital.

4.2 The Inquiry understands that you were the Project Manager for RHC from around 2006.

A. This is <u>not</u> correct; I was the Project Manager for the Adult Hospital not the Children's Hospital. The Project Manager for the Children's Hospital was Mairi Macleod.

4.3 Describe in detail this role. Including your role, if any, in the User Groups.

A. In terms of my role as Project Manager of the new adult hospital please see the answer to the question above.

In terms of my role with regard to the User Groups I was the main point of contact between the Users and the Design Team and organised and coordinated the User Groups. The User Groups membership consisted of nominated User reps from clinical, nursing and other disciplines such as Allied Health Professionals, Pharmacy, Imaging, usually with a designated General

Manager as the lead for the Users. From memory for the new adult hospital there were over 20 User groups with an estimated total of around 200 User participants.

I was the lead for the User Groups and, along with Project Team colleagues, would ensure good interaction between the Users and the Design Team in the meetings and anticipate possible User issues. Acted as a point of contact for any User questions and design team queries out with the User Group meetings and ensured User Groups ran effectively.

Technical aspects were not part of the remit of the User Group meetings.

It was my understanding that, while the User Groups worked with the Project Team and Design Team to develop the layouts of the departments (ie 1:200 and 1:50 drawings), the technical aspects were being dealt with in parallel through technical meetings and workshops. There was a link between the User Groups workstream and technical workstreams in that it was my understanding that the ASR Programme Manager, Frances Wrath (who was formally an Estates Manager and transferred to the Project Team from Estates) and the Currie and Brown Adviser, David Hall were involved in both streams of work.

Currie and Brown were the Health Board's technical adviser for the project.

4.4 Confirm who attended the user groups meetings from IPC, Estates, Clinical and the GGC Project Team for the following areas: Ward 4B – QEUH; Ward 4C – QEUH; Level 5 – QEUH; Critical Care – QEUH; Ward 2A & 2B – RHC; PICU RHC – RHC; All Isolation rooms**.**

A. I am unable to comment on Ward 2A & 2B – RHC; PICU RHC as these are part of the Children's Hospital and I was not involved in these. I was involved during the development of the 1:200 drawings for the new adult hospital including Wards 4B, 4C, level 5 and Critical Care, but not in the programme of

User meetings to discuss 1:50 drawings. From memory I think the Senior Nurse Adviser (Fiona McCluskey) led these meetings. However, having said this the User Groups would have been involved in the development of both 1:200's and 1:50's drawings. During the Design phase, developing the 1:200's for Wards 4B, 4C, level 5 and Critical Care, the User Groups were attended by:

From the Project Team side –
The User Group meetings were attended by myself, the ASR Programme Manager (Estates/Technical) Frances Wrath, Project Infection Control Nurse Jackie Stewart, The Project Senior Nurse Adviser Fiona McClusky and Project Facilities Management rep Karen Connelly and for the majority the Currie and Brown Adviser David Hall, and for many of the larger departments eg Critical Care, Acute Admissions Unit (AAU), Emergency Department the Project Doctor, Stephen Gallacher. These User Group meetings were also attended by the Design Team eg architects.

From the User Group side From memory :-
Ward 4B – The User Group working with the Project Team and Design Team to develop the design for Ward 4B included nominated senior clinicians and nurses from the Haemato-oncology service, the General Manager (GM) under whose remit Haemato-oncology fell and I think the User Group also included the Clinical Services Manager (CSM) for Haemato-oncology.

Ward 4C – Please see explanation below, 4C was designated as a Renal Ward. The Renal User Group worked with the Project Team and Design Team to develop the design (ie 1:200 and 1:50 drawings) for Ward 4C. The Renal User Group membership included Senior Clinicians and nurses, CSM, renal technician and the Renal General Manager as lead for the Group.

Wards on floor 5 – Please see explanation below. The Ward User Group worked with the Project Team and Design Team to design the wards on level 5. From memory the Ward User group members included the Nurse Director

as lead for the Users, a senior clinician, senior Nurses (Lead Nurses and Senior Charge Nurses), senior pharmacist and I think an Allied Health professional rep.

Level 5 new adult hospital

I have made the assumption that level 5 is included here as it refers to the Infectious Diseases (ID) Unit.

I believe in circa 2006 at an ASR Programme Board meeting chaired by the Health Board Chief Exec it was agreed that ID should not be part of the new adult hospital. Subsequent to this the Outline and Full Business Cases identified the services which would be included in the new adult hospital, Infectious Diseases was not included. Level 5 was designed as generic wards for generic services. Shortly before migration, after the hospital had been built, the Project Team was made aware that Infectious Diseases wanted their specialty to relocate to the new adult hospital. I understand Infection Control then entered into dialogue with Infectious Diseases however I cannot give any more detail as I was not involved in this.

No request for any changes to level 5 Wards was made.

Ward 4C

Ward 4C was designated a Renal Ward. The Renal User Group worked with the Project and Design teams to develop the 1:200 and 1:50 drawings layouts for Ward 4C and signed off the drawings. In 2013 Haemato-oncology Users requested changes to Ward 4B. No changes were requested to ward 4C.

Ward 4B

By 2013 the drawings for Ward 4B had been signed off by the respective User Groups /Directors and the building of the wards within the hospital was well advanced. In July 2013, a request was made by the Haemato-oncology Users through their Directorate Director for changes to be made to ward 4B. The change was costed and then approved by the Chief Operating Officer. As it was is over a decade ago and out with the normal process it is difficult to

recall details but from memory, I think there were 2 meetings with the Users at least one of which was attended by the Design Team architect to discuss the new 1:200 layout for the ward and one meeting for Users to review and agree the 1:200 revised drawings. The specialty Lead Nurse, Myra Campbell, (member of the User Group) attended the meetings along with myself and I can recall others attending but afraid I cannot remember who they were. These were one-off meetings 12 years ago.

Isolation Rooms

I do not remember the detail but in summer (think May) 2009 myself and other members of the Project Team met with Infection Control representatives in order for Infection Control to formally sign off the Public Sector Comparator 1:200's drawings and finalise the number of isolation rooms in the new adult hospital. I cannot remember the detail, this was 16 years ago.

As described the User Group meetings, with ICN input, developed the 1:200 drawings, these showed the position of the isolation rooms within the respective departments.

Technical /M&E aspects were not part of the User Group remit.

My understanding was that the technical aspects were addressed in the Employers Requirements and would have been, I believe, considered foremost by Currie and Brown who were the Health Board's Technical Advisor with input from technical members of the Project Team and other technical staff within the organisation.

4.5 How often were user group meetings scheduled to review design proposals and agree the design with the user groups

A. Prior to going to market there were numerous meetings with User Groups to develop the Schedules of Accommodation, the Clinical Output specs and, for the larger User Departments, to develop the Public Sector 1:200 departmental

drawings. However, I am assuming the above question refers to the post market design proposals (ie 1:200 and 1:50 drawings) after the preferred bidder was appointed. From memory for each User Group there were around 3 sessions to finalise 1:200 drawings or more if required until Users were happy to sign off the drawings. Some areas were straightforward and Users were happy with the drawings and signed them off after a couple of meetings. I think (as I was not involved) around 3 User Group sessions were scheduled for the 1:50's.

4.6 Describe your involvement in the design of the Schiehallion unit, PPVL and BMT rooms**.**

A. I was not involved with the Schiehallion Unit. With regard to Isolation rooms and Ward 4B please see my answers to the previous questions which describe my involvement.

4.7 How were designs approved for construction and who signed off on the agreed design?

A. For all User Groups once the Users were happy with the designs the Lead for the respective User Groups signed off the drawings on behalf of the User Group. The respective Directorate Director then also signed off the drawings. The drawings showed the number, type, size and layout of the rooms in each department. This was also the process followed for the design of Ward 4B prior to the changes requested in 2013.

It was my understanding that the technical/M&E information was contained within the ABD sheets and these were signed off by the ASR Programme Manager, Frances Wrath or David Hall, the Currie and Brown Adviser.

4.8 Explain the purpose of the guidance relied upon by the design team and why this was important.

A. I am not sure which guidance is referred to in this question? If it is the Health Building Notes and Technical notes then my understanding is that the building

notes gave guidance for the sizing and layout of rooms – this allowed new build hospitals to be standardised. I am unable to comment on the technical/ M&E aspects of guidance as out with my area of expertise.

4.9 Explain how the output for the design of the Wards was confirmed and signed off. In doing so describe the purpose of the clinical output specification, and your involvement.

A. Wards - New adult hospital

There was a specific User Group, the Ward User Group with members including the Director of Nursing, Infection Control, pharmacy representation, a senior doctor and nominated Senior Charges Nurses representing both the different specialties eg surgery, medicine and the different hospital sites which would be transferring to the new hospital. From memory the Group was around 12 in number. At the User meetings there were also members of the Project Team including the full time Infection Control representative and members of the Design Team. Myself and the Project Director, Alan Seabourne led the Ward User Group in undertaking benchmarking visits to other new hospitals to identify optimum features/layouts, new ways of working to incorporate into the design of the wards in the new adult hospital. The Design Team, Project Team and User Group worked together through the User meetings to develop the Schedule of Accommodation, Clinical Output spec and Public Sector Comparator 1:200 drawings and, post market, the layout design (1:200 drawings) and 1:50 drawings for the generic ward. To further assist in the design a full-size mock-up of a bedroom and ensuite complete with fixtures and fittings and bed / furniture was built. Users and senior staff across multiple specialities and external stakeholders were invited to give comments, these were collated by the Project Senior Nurse Adviser and fed back into the User Group / Design. Once the Ward User Group was happy with the design the drawings were signed off by the Director of Nursing on behalf of the group. Infection Control was involved in the User Groups, the benchmarking and, if memory serves me correctly, also signed off the drawings. The generic ward 1:200 layout was used as a baseline and, where

required, was adapted to the needs of specialties which had particular layout requirements.

Floor 5 Wards - As described floor 5 wards were generic in design intended for use by generic services, the design drawings were signed off by the Director of Nursing on behalf of the User Group. No additional changes were requested.

Ward 4C was part of the renal department and was signed off by the Renal User Group Lead who was the GM for Renal and also by the respective Directorate Director. No further changes were requested to ward 4C.

The Critical Care drawings were signed off by the User Group leads and also the respective Director. As described Infection Control rep was part of the Project Team and involved in the User Group meetings and the number of isolation rooms was signed off by Infection Control as previously described.

Clinical Output specification

The Clinical Output specifications (COS) were developed at the same time as the Schedules of Accommodation and the Public Sector comparator 1:200 drawings. The Clinical Output spec contained information about the specialty such as for example, how it would operate, patient flows, which departments it needed to be co-located with etc.

The COS documents were included in the information pack for bidders along with the Employers Requirements which, amongst other information, gave details of the guidance eg Health Building notes and technical notes to be followed.

4.10 Describe the intended use and purpose of the following wards in QEUH: Ward 4B ; Ward 4C ; Level 5

A. Ward 4B was originally haemato-oncology 14 beds then changed to 10 beds then in 2013 request for the ward to house BMT.

Ward 4C – as described above this was originally designated as a Renal Ward.

Level 5 – as described above this was designated as a generic ward to house generic services.

4.11 What guidance was considered in the design of these wards, what processes were in place to ensure guidance compliance?

A. My understanding was that the Employer Requirements (ER's) identified national guidance to be followed eg Health building notes, SHTM's. The Health Board's technical advisor for the Project was Currie and Brown, and I understood that Capita were involved in compliance. The Haemato-oncology Clinical Output specifications (COS) included some information about technical requirements in addition to those in the Employer's Requirements (ER's).

4.12 Were there any changes to the design during the design and build, if so, please describe any such changes, describe the impact, if any, on guidance compliance, and described the sign off process for any such changes, your involvement and how any changes were communicated to the Board. Was external advance ever sought in respect of design changes?

A. There were slight changes to a couple of the specialties but I cannot remember which and they were relatively minor. The significant change requested was to ward 4B, the construction of the wards was well advanced by the time of the request in mid-2013. I cannot remember the exact details of the change requested except that the request was for BMT to be housed in ward 4B. From memory the change control process in place for the project was as follows:

The respective Director would be required submit a Change Control request to the Chief Operating Officer (COO), this would be for costing in the first instance. If the COO agreed for the request to be costed Brookfield were asked to provide costs and also the impact upon the timetable of the

requested change. The Director would submit the costs to the COO for approval. If these were signed off by the COO the contractor would then be instructed to proceed with the change.

The July 2013 Ward 4B request was a significant change as the building was so well advanced (I cannot remember clearly but I think construction work had to be stopped) and as such the change would have been highlighted within the various internal project group meetings and would have been reported up the chain of command through the respective governance groups. I no longer remember the names of these groups as it is more than a decade ago.

I am assuming that the question about seeking external advice is referring to technical /M&E advice? If so, I am unable to answer this as out with my remit.

4.13 The Inquiry understands that the BMT service was to transfer from the Beatson following a change order request, issued by Jonathan Best in July 2013. Following the Change order request, what actions did the GGC Project Team take to confirm the technical and environment requirements (in particular air change rates, pressure regimes and HEPA and air permeability requirements) for the BMT Unit?

A. I am not in a position to answer this question as M&E air changes, pressure regimes, HEPA and air permeability were out-with my remit /knowledge expertise.

4.14 What design review meetings were held to confirm with the user groups to confirm the requirements for the BMT Unit.

A. I cannot comment on any M&E meetings. With regard to the revised 4B 1:200 drawings, as previously described from memory there were 2 meetings with the Users to, in first meeting, discuss the revised 1:200 ward layout and, in the second meeting to review and agree the 1:200 drawings.

4.15 Was the design for the BMT Unit subject to the RDD process. If so, who was involved in the RDD process for the BMT Unit

A. The RDD process for the development of the 1:200s and 1:50 drawings was completed in circa 2012. This change request was made over a year later when the building works were well advanced. As described above meetings were held with Users to discuss, then review and agree the revised 1:200 drawings. I cannot comment on the M&E RDD process as out with my remit and knowledge / skills.

4.16 What feedback regarding Air Change Rates and pressure differentials was received from Multiplex regarding the Change Order?

A. I am unable to answer this as out with my remit.

4.17 Describe your involvement and understanding, if any, in the removal of the maximum temperature variant? Why was the decision taken and by whom? What risk assessments, if any, were taken prior to making this decision? What was the impact, if any, in removing the maximum temperature variant?

A. I was not involved in this. This was out with my remit.

4.18 What role, if any, BREEAM played in the acceptance of this design?

A. I am not in a position to answer this as out with my remit

4.19 Please describe and name the people who were involved, the sign off process involving RDD, and your knowledge and understanding of the purpose of the scale drawings and designs, how the technical requirements for the rooms were managed, including your role and involvement**.**

A. I am not sure what this question refers to? Is this a particular department or ward.

4.20 Describe the IPC involvement in the design of the Wards of QEUH, in particular describe the IPC involvement in respect of Wards 4B – QEUH; Ward

4C – QEUH; Level 5 – QEUH; who was involved and who signed off the final design and when.

A. Annette Rankin ICN was assigned to provide Infection Control support into the new adult hospital and participated in User Group meetings during the phase of developing the COS, Schedules of Accommodation and Public Sector 1:200 Drawings. We also had input from other Infection Control Nurses but the main input was from Annette.

The Haemato-oncology (ward 4B) Clinical Output Specification (COS) included information from Microbiologist Dr John Hood. From recollection there was a meeting in summer (think May) 2009 with Infection Control representatives regarding the new adult hospital to formally sign off the Public Sector Comparator 1:200's drawings and finalise the number of isolation rooms in the new adult hospital. Annette Rankin was part of the Health Board team attending the Competitive Dialogue and was part of the team evaluating the bids. Annette then left the organisation and ICN (Jackie Stewart) became full-time member of Project Team. Jackie attended the User meetings and both contributed to the development and sign off of the 1:200 drawings.

As described for Wards 4C and level 5 Wards – no further changes were requested

The request for subsequent changes to ward 4B was made in 2013. I cannot comment on any M&E meetings as this was out with my remit and knowledge base.As described from memory there were two meetings with Users to revise and agree the 1:200 drawings. Apart from the Lead haemato-oncology Nurse I cannot remember who else attended the meetings to revise the 1:200 layouts as these were one off meetings 12 years ago.

4.21 What concerns, if any, did you have regarding the final design specification of Wards Ward 4B – QEUH; Ward 4C – QEUH; Level 5 – QEUH, and what action, if any, did you take in respect of these concerns?

A. I had no concerns as the 1:200 and 1:50 drawings had been agreed/signed off by Users.

4.22 Describe the purpose of the ADB sheets and the relevance of ADB in respect of the intended patient cohorts. Who was responsible for signoff of the ADB sheets? From the point of signing off the ADB sheets when did it become apparent that the ventilation specification of Wards Ward 4B – QEUH; Ward 4C – QEUH; Level 5 – QEUH did not meet the requirements of SHTM/ HTM? What action, if any, did you take in respect of this?

A. My understanding was that the ADB sheets gave the technical details of the room and they were signed off by either the ASR Programme Manager, Frances Wrath or David Hall the Currie and Brown Technical Adviser.

4.23 What concerns, if any, did you have regarding isolation rooms and compliance with SHTM/HTM? What action, if any, did you take in action respect of any such concerns?

A. I am unable to comment as M&E compliance is out with my remit and competence.

4.24 The Inquiry has reviewed the RDS in excel format and note there is an entry under 'Design Notes' in the RDS which refers to HBN 4 Supplement 1, paragraph 1.10, and states:

> *"EXCLUSIONS*
> *This supplement does not describe the specialist facilities required in infectious disease units or on wards where severely immunocompromised patients are nursed. Guidance for these facilities will follow in a further supplement to HBN 4."*

Were you aware of the exclusion in para 1.10? If so, what action was taken? What was the impact, if any, of the exclusion?

A. Not able to comment on this as out with my remit.

4.25 What ceiling types were specified and approved for use in isolation rooms? Who from the GGC Project Team approved this? Describe your involvement, if any? What was the impact, if any, of the choice of ceiling tiles? What concerns, if any did you have regarding the choice of ceiling tiles?

A. I was not involved in this; this was outwith my remit and knowledge.

4.26 The Inquiry is aware that in respect of a derogation being agreed in respect of the ventilation system and the requirement to achieve ACH in compliance with SHTM. Were you aware of this at the project phase? If not, when did you become aware? In hindsight, should you not have been aware of this at the time?

A. I am unable to comment on this as was not involved in this and is out with remit and knowledge /skills base.

4.27 What concerns, if any, at the project phase did you have in respect of the ventilation system?

A. As above, I had no concerns as this was within the responsibility and expertise of other members of the Project Team and external advisers.

4.28 Describe your involvement, if any, in respect of the decision to use Horne taps.

- What concerns, if any, did you have regarding the use of Horne taps?
- What risk assessments were carried out in respect of the use of Horne taps?
- Who was involved in, and who signed off the use of Horne taps?
- Did you attend the meeting regarding the use of Horne taps in 2014? If so, why was the decision made to proceed with Horne taps ?

A. To the best of my knowledge, I was not involved in the choice of taps. However, if memory serves me, the Senior Nurse Adviser wrote a detailed paper regarding the choice of taps.

5. <u>Handover</u>

Commissioning and validation:

A. I am unable to comment on the M&E / Water commissioning and validation as I was not involved in this, this was out with my remit and knowledge /skills base.

5.1 Describe what commissioning of the water and ventilation system took place prior to handover, and your involvement, if any.

A. As above

5.2 Who was responsible for ensuring that commissioning of the water and ventilation system was carried out, and who signed off that it had been carried out? What concerns, if any, did you have regarding commissioning and validation being carried out prior to handover?

A. As above

5.3 The Inquiry understands that NHS GCC decided to forgo the requirement to have an independent commissioning engineer. Who made this decision? What was the impact, if any, of this decision? In hindsight, do you think that it was the correct decision?

A. As above

5.4 The Inquiry understand that no validation was carried out in respect of the ventilation system. When did you become aware of this? How did handover come to be accepted without the ventilation system being validated? Who was responsible for this and who signed off on this?

A. As above

5.5 Who oversaw contractual compliance? Who was responsible for ensuring that the paperwork was produced to confirm contractual compliance? What action, if any, did you take to ensure that paperwork was in place to ensure

contractual compliance? Was validation of the ventilation system a contractual requirement? If so, who signed off on contractual compliance given the lack of validation?

A. As above

5.6 Describe your role in the lead up to accepting handover. What action, if any, did you take to ensure that the wards within RHC met the guidance requirements of SHTM?

A. I was not involved in the Children's Hospital. Non-technical members of the Project Team, of which I was one, were not involved in the ensuring wards met M&E / technical requirements, it was not part of their role. They were involved in, amongst others, the multiple Health Board Service Redesign groups and workstreams, looking at how the services would function in the new layouts, patient flow in the new design of 100 % single rooms, new communication systems, overseeing the completion of hundreds of workbooks required to plan the migration of hundreds of patients and thousands of pieces of equipment and furniture. Working with HR in the induction and orientation 9,000 staff moving from the various hospital sites onto the QEUH, working with the (for the adult hospital) circa 70 Service Transfer Owners from the different wards and departments to ensure smooth transfer. The Senior Nurse Advisor and myself were involved in visible checking of bedrooms in the new adult hospital to make sure that the bedheads had the required number of sockets, the nurse bell worked, handrails were fitted and in the correct position. From memory any issues found when doing these checks were reported to Capita.

5.7 How were you assured that the wards met the requirements of the specific patient cohorts?

A. Please see my answers above.

5.8 The Inquiry is aware that the ventilation system in respect of Wards 2A and 2B did not meet the requirements of SHTM – knowledge and awareness/

involvement in derogation. Did you have any concerns at the time? If so, please describe. The Inquiry is aware that Ward 2A was handed over without HEPA terminals being in place in wards, how did sign off come to take place without these being in place? Who signed off the RHC as ready for handover, without HEPA being in place?

A. Unable to comment as I was not involved in the Children's Hospital

5.9 The Inquiry understands that there was no validation of the ventilation system prior to handover. Who was responsible for ensuring that this was in place? Why was validation not carried out? When did you become aware that it had not been carried out and what action did you take in respect of validation having not been carried out? What was the consequence of validation not having been carried out? Should the hospital have opened without the ventilation system having been validated?

A. Unable to comment on the technical /M&E commissioning and validation as I was not involved in this, out with my remit and knowledge /skills base.

5.10 Describe your knowledge and involvement, if any, in the PMI allowing Multiplex's role as Independent Commissioning Engineer. What was the impact of this?

A. Unable to comment on this as was not involved in this and was out with my remit and expertise.

5.11 At handover, had a preoccupation L8 risk assessment been carried out? Who was responsible for ensuring that this was in place prior to patient migration? were you aware of a preoccupation L8 assessment having been carried out? Who instructed it? When did you become aware? Why did you not raise it as a concern that you had no seen this prior to patient migration, was this not within your role as Project Manager of RHC?

A. Unable to comment as I was not involved in the Children's Hospital. I was not the Project Manager of the RHC.

5.12 Who was responsible for providing asset tagging. Why was there no asset tagging who decided to proceed without it?

A. Unable to comment on asset tagging as was not involved in this as out with my remit and knowledge /skills base.

5.13 What, if any, testing and maintenance protocols and regimes were in place at handover? Who was responsible for putting these in place? If they were not in place, why not, and what action was taken and by whom to address this?

A. Unable to comment on the technical testing and maintenance protocols as I was not involved in this. Technical testing and maintenance protocols were out with my remit.

5.14 Describe your knowledge, if any, of the water system being filled prior to handover. Why was this done and by whom? What concerns, if any, did you have regarding this? Did you escalate these concerns? If so why, if not why not?

A. Unable to comment on water systems as was not involved in this, out with my remit and knowledge /skills base.

5.15 The Inquiry is aware of concerns in respect of the cold water temperature. Describe your awareness, if any, in respect of these issues. Describe your involvement, if any, and any action taken. If you were not aware of these issues at the time, with the benefit of hindsight is this something you should have been aware of?

A. I am unable to respond to the above questions as I was not involved with water as out with my remit and knowledge.

Declaration

I believe that the facts stated in this witness statement are true. I understand that proceedings for contempt of court may be brought against anyone who makes, or

causes to be made, a false statement in a document verified by a statement of truth without an honest belief in its truth.

Scottish Hospitals Inquiry
Witness Statement of
Douglas Ross

I, Douglas Ross, of Currie & Brown UK Limited (**Currie & Brown**) will say as follows:-

1 The facts and matters set out in this witness statement are within my own knowledge unless otherwise stated, and I believe them to be true to the best of my recollection.

2 This witness statement was prepared with the assistance of the solicitors for Currie & Brown, Keoghs LLP, following Teams calls in response to the Glasgow IV Questionnaire issued by the Inquiry on 27 January 2025 and supplemental questions issued by the Inquiry on 10 April 2025, but it is in my own words and sets out my recollection and understanding.

3 I refer to the project to design and construct the QEUH/RHC as the “Project” and I refer to NHS Greater Glasgow & Clyde as the “Board” throughout this witness statement.

4 As I set out below, I was primarily involved in the commercial aspects of the Project, however it is important to explain at the outset that I was aware of discussions and copied into meeting minutes covering a wide range of issues across the Project in view of my role. I led on commercial matters throughout the Project, with input during the pre-contract award stage, to have oversight of developing proposals and validate that the Project remained affordable within Outline Business Case limits.

During the procurement stage I led the commercial dialogue group and the tender commercial evaluation process. Following the award of the design and construction contract to Brookfield Construction (now known as Multiplex) on 18 December 2009 ("the Building Contract"), my commercial focus led to me becoming a member of the Project Management Group which met every two weeks, the Project Commercial Group, which met every month and the Project Steering Group which met every quarter.

5 In addition I also attended the Early Warning Notice meetings which picked up any issues arising from any other group which had the potential to affect the programme and the costs for the Project. After the award of the Building Contract and setup of the site accommodation by Multiplex, I was based on site on average around 2-3 days per week. As such, I therefore have an awareness of lots of events and meetings, however it is often hard due to the passage of time to accurately state how and when I became aware of certain issues at the time.

6 In addition, as the Currie & Brown lead for the Project, I worked closely with Mark Baird and David Hall and became aware of information via conversations with David and Mark. Whilst a huge amount of information was therefore copied to me or discussed in my presence, information was never provided to me for technical or clinical consideration as that was outside the role and remit of Currie & Brown.

7 Finally, as I am the only remaining member of the Currie & Brown team who worked on the Project still employed by Currie & Brown and with access to the relevant documentation, I have been involved in responding to requests for information from the Inquiry and have been involved in both the Police Scotland investigation and the civil actions relating to the Project. This has required me to search for and review, or re-review documents. Some of the information I am now aware of either came into my knowledge while dealing with the Inquiry and the civil and Police actions or developed over the course of dealing with these investigations.

8 Where I refer to information supplied to me by other people, the source of the information is identified where I am able to do so; facts and matters derived from other sources are true to the best of my knowledge and belief.

Personal details, professional background and experience

9 I am a Senior Director at Currie & Brown, which is an asset management and construction consultancy. I have a BSc in Quantity Surveying obtained in June 1991 and achieved MRICS membership in 1993. I joined Currie & Brown in July 1991 as a Graduate Quantity Surveyor. I have worked continuously for Currie & Brown since July 1991 and have not worked for any other construction consultancy. To assist the Inquiry, I now produce marked **DR1** a copy of my CV, detailing my professional history and specialism.

10 During the time Currie & Brown was appointed as Lead Consultant in respect of the Project, I was a Director in the Quantity Surveying team.

11 I had been involved with smaller scale healthcare projects for the Board and NHS Ayrshire & Arran. However, I brought to the Project major project experience from managing commercial teams on significant projects such as a £300million education programme and a £200million defence programme.

12 Because I was the commercial lead, my own individual role in the Project didn't really change through the various stages of the Project (although Currie & Brown's role did, as I explain below). I was responsible for delivering the commercial aspects of the Project and for supporting the delivery of the Project within the approved Outline Business Case, budget, which was the budget approved by the Scottish Government. That included ensuring that procurement of the design and construction was within budget and managing any changes within the budget on an ongoing basis. I was responsible for reporting on the commercial impact of any changes.

13 My main points of contact within the Board's Project Team were Peter Moir (Assistant Project Director and, as discussed below, NEC Project Manager), Alan Seabourne (Project Director), David Loudon (Project Director following Alan Seabourne's retirement) and Alan McCubbin (Capital Finance Manager). I reported to Peter Moir, Alan Seabourne and David Loudon. I prepared cost reports and cash flow forecasts for the finance team to help allocation of finance from the Scottish Government each year and discussed these with Alan McCubbin. These forecasts set out the funding needs for the year which we then had to manage during the year.

Currie & Brown's contractual position

14 I deal with Project events in chronological order below. However, I have been asked several questions relating to Currie & Brown's appointment as Lead Consultant, the variation of Currie & Brown's role, and the agreement of Currie & Brown's contract so I deal with this issue separately at this stage. The key dates and events are as follows:

Date	Event
26 June 2008	The Board issued an Invitation to Tender ("ITT") for the appointment of a Lead Consultant on the Project.
6 August 2008	Currie & Brown submitted its response to the Board's ITT.
2 September 2008	Currie & Brown was appointed as Lead Consultant for Stage 1A of the Project.
18 December 2009	Multiplex was awarded the Building Contract to design and build the Project on the NEC3 form of contract. The Board assumed the role of NEC3 Project Manager.
18 January 2010	Currie & Brown was notified that the Board were undertaking the role of NEC3 Project Manager, and the scope of Currie & Brown's service was therefore significantly reduced
6 April 2011	Memorandum of Agreement between the Board and Currie & Brown signed.

Currie & Brown's Appointment as Lead Consultant

15 The Board issued an Invitation to Tender for the appointment of a Lead Consultant for the Project on 26 June 2008 **(Inquiry Bundle 17, document 36, page 1814)**. The Invitation to Tender document set out the Board's proposed contract strategy for the Project as "Two stage Design & Build".

16 The Invitation to Tender set out the proposed scope of services for the Lead Consultant across six proposed stages of the Project:

16.1 Stage 1A - Preparation of Employer's Requirements ("ERs") documentation. Preparation of Pre-Qualification Questionnaire ("PQQ"), Office of the Journal of the European Union notice ("OJEU"), Memorandum of Information ("MOI") and ERs documentation and full Stage 1B tender and contract information. Design development of a site masterplan and Outline Business Case ("OBC") Public Sector Comparator ("PSC") Exemplar Design. This stage of the Project was the development of the required suite of documentation or similar to enable the preparation of the tender process (Stage 1B as noted below) for the design and construction.

16.2 Stage 1B – Stage One Design & Bid development. Issue of ERs design and bid development process with three design and build ("D&B") consortia, including evaluation and shortlisting for next stage down to one preferred bidder.

16.3 Stage Two - Design & Bid Development. Design and bid development with a single D&B consortium based on open book process to design and tender all packages and agree commercial arrangements to conclude the bidder's Guaranteed Maximum Price ("GMP") within the Board's cost budget.

16.4 Stage Three – Construction Phase. Full Employer's Agent role to manage the build process on site and confirm compliance with ERs or Contractor's Proposals.

16.5 Stage Four – Operational commissioning and equipping.

16.6 Stage Five – Post Project Evaluation and Defects.

17 The Invitation to Tender document also included a draft Memorandum of Agreement for the successful bidder's consideration.

18 Currie & Brown entered a bid for all services across the six proposed stages of the Project listed in the Invitation to Tender in its Response to the Invitation to Tender dated 6 August 2008.

19 A team of technical sub-consultants ("the Technical Team") was included in Currie & Brown's bid, which comprised of:

19.1 URS Corporation Ltd (now known as AECOM Infrastructure & Environment Ltd) ("AECOM"), as civil and structural engineer;

19.2 Buchan Associates ("Buchan"), as healthcare planning consultant;

19.3 HLM Architects (now known as HLMAD Limited) ("HLM"), as architect; and

19.4 Wallace Whittle Limited (now known as TÜV SÜD Limited) ("Wallace Whittle"), as Mechanical, Electrical and Plumbing ("MEP") engineer.

20 Following a competitive tender process, Currie & Brown was appointed Lead Consultant by a letter from Alan Seabourne of the Board dated 2 September 2008 **(Inquiry Bundle 17, document 37, page 1902).** Although the Invitation to Tender listed services across the six proposed stages of the Project, Alan Seabourne's letter stated that Currie & Brown's appointment was limited "initially for Stage 1A – Preparation of Employer's Requirements Documentation, with appointment to successive stages subject to approval from the Board, all as set out in our ITT documentation".

21 During this initial pre-design stage, Currie & Brown therefore provided project management services, quantity surveying services and worked with the Technical Team to assist with the development of the Exemplar Design and Employers' Requirements (both of which are described below) to allow the Board to invite contractors to tender for the design and construction of the Project, set out as Stage 1B.

22 I have been asked to explain the technical advice and expertise Currie & Brown brought to assist the Technical Team that it engaged during the initial pre- design stage of the Project. Currie & Brown did not provide any technical advice or expertise in connection with design matters, the various members of the Technical Team were engaged as sub-consultants to Currie & Brown for this very purpose. Currie & Brown's own role was the provision of project management support to the Technical Team to coordinate activities and plan actions to meet the key programme dates and the production of the Exemplar Design and ERs. Currie & Brown also brought commercial management expertise to manage the design development within the approved budget allowance. Currie & Brown's core delivery team of David Hall, Mark Baird and me did not have any technical design qualifications: instead, we either had project management or quantity surveying professional accreditations (MAPM or MRICS).

23 Whilst our appointment was stated as initially for Stage 1A, in reality activities under Stage 1B had to commence at the same time with some of these running concurrently with Stage 1A, such as development of the OJEU prequalification documentation. The OJEU notice was an advertisement that was published by the Board to invite tenders for the design and construction of the Project. Other Stage 1B activities that were carried out in parallel with Stage 1A included the development of the tender documentation and working with the Board's legal advisors on development of the NEC3 contract conditions. It was therefore agreed that our appointment would extend to Stage 1B. I cannot recall a formal letter being issued to confirm this. Currie & Brown's fees for all Stages of our appointment were dealt with between Peter Moir and me.

Revised fee agreement between the Board and Currie & Brown

24 Multiplex was awarded the Building Contract to design and build the Project on 18 December 2009. At this point the Board assumed the formal role of Project Manager under the NEC3 form of contract and became responsible for contract administration.

25 I have been asked why the Board decided to assume the formal role of Project Manager at this stage and to explain the rationale for this decision. As I set out in my response at paragraphs 122-124 below I understand this was because the Board wished to retain control of the issue of contract notices such as project managers instructions, early warnings and compensation events.

26 I have been asked whether the change referred to in the previous paragraph came as a surprise to me or Currie & Brown. It was a shift from the position in the original lead advisor ITT document, but it was not a surprise when the contacting strategy changed to the NEC form of contract for the reasons I explain in the above paragraph and at paragraphs 122-124 below.

27 The Board's Invitation to Tender had anticipated that the Lead Consultant would act as Employer's Agent and manage the build process on site, retaining its own technical team to advise on compliance with ERs or Contractors Proposals. However, when the Board assumed the NEC3 Project Manager role, these duties were removed from Currie & Brown's scope of service. Currie & Brown's reduced scope of services, and the fees agreed for this reduced scope, was set out in a letter dated 18 January 2010 from Peter Moir of the Board **(Inquiry Bundle 17, document 74, page 2870)**, which is referred to as the "Revised Fee Agreement".

28 I have been asked whether the Inquiry is correct to understand that at this point Currie & Brown were no longer responsible for advising on compliance in respect of the ERs. That is correct. When the Building Contract was awarded to Multiplex and the revised fee agreement between the Board and Currie & Brown was finalised, Currie & Brown's Technical Team were stood down to reflect the change in Currie & Brown's role on the project on the instruction of the Board which was set out in Peter Moir's letter of 18 January 2010 (i.e. the

Revised Fee Agreement). Currie & Brown had no internal technical expertise in relation to design matters and so were not qualified to advise on compliance in respect of the ERs, nor did that form part of Currie & Brown's remit following the revised fee agreement. Currie & Brown was only required to provide, and only provided, project and commercial management support in support of the management of the contract activities after the Building Contract was awarded to Multiplex. Any continued technical support that might thereafter be required from the Technical Team was to be agreed on an ad hoc basis on the instruction of Alan Seabourne or Peter Moir. This took place on only limited occasions with input from TUV SUD Wallace Whittle, such as input to standby power generation and review of parts of the emerging environmental matrix.

29 I have been asked who was responsible for ensuring compliance with the ERs from this point if Currie & Brown was not. Under the Building Contract, which was in the NEC standard form of contract, the ERs were incorporated into the "Works Information" (which detailed the contract and technical standards to be complied with). Verification of delivery of the Works Information (or ERs) rests with the appointed NEC Supervisor. The NEC Supervisor should play a critical role in ensuring that the work is carried out in accordance with the contract and technical standards. The role is independent of the Project Manager and primarily technical in nature. The NEC Supervisor appointed by the Board on the Project was Capita. I understand that Capita's role was also extended to providing support with design reviews during the course of the Project.

30 I have been directed to the wording under the heading "Delegation of Duty" in the Revised Fee Agreement which states, "As the Board are undertaking the role of Project Manager we require to delegate a range of duties which will most likely mirror the attached schedules A-C. I propose that David and Mark meet with myself and Alan Seabourne to agree duties for both Project Manager and Cost Advisor, please let me know if you wish to undertake this task."

31 I have been asked whether the meeting referred to here went ahead, and if so, what was the outcome of that meeting. I have been asked to produce any minute of that meeting.

32 I cannot recall, and do not have a written record of, this meeting but I am certain that a meeting between a combination, or possibly all, of Mark Baird, David Hall, and me from Currie & Brown and Peter Moir and Alan Seabourne from the Board must have taken place as Currie & Brown's duties (such as for Mark Baird to take the ERs through to Full Business case, for David Hall to provide Project Management support, and for me to support on the commercial side) were clearly agreed. I do not have a copy of, and do not remember there being a finalised formal schedule of duties agreed between Currie & Brown and the Board other than the Revised Fee Agreement. Currie & Brown's revised role was also set out in a document entitled "New South Glasgow Hospitals and Laboratory Project – Technical Advisor Fees – Position Statement January 2011" which was prepared by Alan Seabourne and approved by the Board at the Performance Review Group meeting on 3 May 2011 (**Inquiry Bundle 34, document 43, page 331)**.

33 In light of the Revised Fee Agreement, Currie & Brown sent service variation letters dated 19 January 2010 to each of the sub-consultants in the Technical Team confirming that the Board had reviewed the technical team support required during Stage 2 (design to full business case) for the hospitals and Stage 3 (construction) for the laboratories. The letters confirmed that Currie & Brown would not be acting as Employer's Agent, despite the terms of the original bid and appointment, and now had a more limited role providing support to the Board, which was going to be acting as Project Manager itself. The letters confirmed that (with the exception of the CDM co-ordinator role for AECOM, which was unaffected by the variation, for a set fee) the Board was not committing to any external technical support as the Board considered they had internal resources able to provide the input necessary. We were therefore confirming to the sub-consultants that no further work would be required from them on the Project unless and until the Board requested periodic *ad hoc* support, for which a scope and fee would be agreed.

34 I have been asked to describe the support Currie & Brown provided to the Board at this point. Currie & Brown only provided project management and commercial management support to the Board in support of the Board's discharge of its own function as NEC Project Manager under the Building Contract. Practically, the project management support that Currie & Brown provided to the Board at this stage was coordinating and managing activities between the Board and Multiplex in connection with Early Warning Notices, Compensation Events, requests for information, and closing out outstanding actions for the Board design reviews. Currie & Brown's commercial input included processing payment assessments, reviewing and agreeing Compensation Event quotations, and providing input on whether an Early Warning Notice should lead to a Compensation Event.

35 I have been asked to describe the technical support that Currie & Brown would have provided that the Board said they could do internally. I assume this question relates to technical support that Currie & Brown would have provided had the Board (a) not decided to assume the role of NEC Project Manager and
(b) not issued the Revised Fee Agreement to Currie & Brown (which changed Currie & Brown's role on the project). If Currie & Brown's role on the project had not changed at this time, Currie & Brown would not have stood down its the Technical Team, and Currie & Brown (with the assistance of its Technical Team) could have provided more input to support technical design reviews and approvals under the reviewable design data process as envisaged in the original Invitation to Tender.

Execution of the Memorandum of Agreement between the Board and Currie & Brown

36 As mentioned in paragraph 16 above, the Board's Invitation to Tender for the Lead Consultant role which was issued on 26 June 2008 included a draft Memorandum of Agreement for the successful bidder's consideration. The Memorandum of Agreement reflected the role that the Board intended at the time for the Lead Consultant to undertake, with the support of its technical team.

37 Currie & Brown could not sign the Memorandum of Agreement at the time it was appointed as Lead Consultant for Stage 1A of the Project in September 2008, because it could not finalise those terms until all of the sub-consultants who made up the Technical Team had agreed their respective sub-consultancy agreements. Mark Baird primarily dealt with this, but from discussions with Mark at the time I was aware of the status of the contract discussions and recall this was a protracted process. However, it is not unusual in construction consultancy projects for work to have started prior to the final contract being agreed and signed.

38 Currie & Brown was later asked by the Board to sign and execute a copy of the Memorandum of Agreement, which still reflected Currie & Brown's original bid submission from 2008. The Board's reasoning for this was, as I recall, to avoid extensive delays in rewriting the full document.

39 The Memorandum of Agreement between the Board and Currie & Brown was signed and dated on 6 April 2011 **(Bundle 17, Document 40, Page 1938)**. I have been asked why Currie & Brown signed the Memorandum of Understanding when it did not reflect the service variations agreed between Currie & Brown and the Board in 2010.

40 As Currie & Brown's scope of services had been amended by the service variations agreed after the award of the Building Contract to Multiplex, when we returned the signed copy of the Memorandum of Agreement to the Board our accompanying letter dated 4 April 2011 set out the six agreed variations. These included that Currie & Brown was not acting as Project Manager under the NEC3 form of contract during Stage 1A, had not provided technical consultant input during Stage 2, and was not acting as Project Manager or Supervisor during Stage 3.

41 I have been asked to provide a copy of Currie & Brown's letter dated 4 April 2011. I have duly submitted a further copy to the Inquiry.

Pre-design stage September 2008 to April 2009

42 As noted above, Currie & Brown's role in this early phase of the Project, the pre-design stage, was to provide technical support to the Board, and to assist with the preparation of the ERs, through the Technical Team. This role continued up to and including the competitive tender process for the award of the Building Contract. The competitive tender process commenced in April 2009. Currie & Brown's work consisted of preparation of the following:

42.1 An Exemplar Design prepared by HMLAD consisting of 1:500 layouts, 1:200 departmental layouts (for 18 departments), 1:50 room layouts (for 50 exemplar rooms), room data sheets (for 50 exemplar rooms) and an equipment list (generated from a standard system – Activity Database, commonly referred to as ADB).

42.2 A schedule of accommodation prepared by Buchan.

42.3 Outline MEP engineering schematics prepared by Wallace Whittle.

42.4 An outline structural engineering strategy and civil engineering strategy prepared by AECOM.

42.5 The Project specification. HLM, Wallace Whittle and AECOM supplemented, and explained in the respective sections of the ERs which they drafted, the output specification criteria set by the various relevant Scottish Health Technical Memoranda ("SHTMs"), Health Technical Memoranda ("HTMs"), Health Building Notes ("HBNs"), Scottish Health Building Notes ("SHBNs"), Scottish Health Technical Notes ("SHTNs"),Scottish Health Planning Notes ("SHPNs") and other industry related design guidance, such as British standards.

42.6 The tender documentation. The initial Invitation to Participate in Dialogue ("ITPD") document and the Invitation to Submit Final Bids ("ITSFB") at the end of the dialogue period were prepared by Currie & Brown in consultation with the Board and their legal advisors, Shepperd & Wedderburn. The Building Contract was also drafted by Shepperd & Wedderburn on behalf of the Board. Currie & Brown's Technical Team provided the technical schedules to the Building Contract and provided commentary to validate that it reflected the commercial intent of the procurement and pricing strategy.

43 I have been asked how the commercial intent of the procurement and pricing strategy was balanced against the need to deliver a healthcare facility which was compliant with NHS guidance, such as SHTMs. The commercial intent of the procurement strategy had compliance at its core. The use of the Competitive Dialogue process provided the framework for dialogue on the Board requirements, which included SHTM compliance. The commercial pricing strategy did not influence any design change away from compliance. The budget was sufficient to provide a building that met the requirements of the Board. Like any project there is push and pull on the available budget, but so far as I can recall no decision was made on commercial grounds in connection with any change in requirements to the hospital design.

The appointed bidder (Multiplex), and from what I recall none of the other bidders, highlighted during the competitive dialogue any areas of significant concern with the budget for the hospital buildings stated in the Invitation to Participate in Dialogue documents. The separate laboratory building had some budget pressures that were identified by the bidders and this was addressed through alternative design solutions implemented by the separate design team appointed directly by the Board.

Technical Review Group Meetings

44 I have been referred to two sets of minutes from the Technical Review Group and the reference in these minutes to (a) the importance of the ERs; (b) the importance of compliance with SHTMs/HTMs; and (c) the impact of a "sealed/non sealed building". I have been asked to describe my involvement in this group and the remit of the group. I was not involved in the Technical Review Group meetings, however I was provided with the minutes as a matter of routine and considered any financial implications of the issues recorded in the minutes.

45 I have been asked what financial implications there were in respect of the importance of the ERs, the importance of compliance with SHTMs/HTMs and the impact of a "*sealed/non sealed building*". The budget was sufficient to provide a building that met the requirements of the Board. This included the stated required compliance with the relevant SHTMs. As I set out at paragraph 55 below, I do not recall any major changes to the ERs for the hospitals from a commercial perspective and so far as I can recall there were no reviews to derogate from compliance which were driven by budget. The decision to select a sealed or non-sealed building was not financially driven so far as I am aware, although I was not involved in that decision.

46 I have been asked whether to the best of my knowledge BREEAM and energy efficiency were discussed during the Technical Review Group meetings. I have also been asked what weight was attached to the importance of achieving BREEAM excellence in these meetings and whether this was given priority over

SHTM/HTM compliance and if so, by whom. I did not attend the Technical Review Group meetings and as such cannot comment on discussion at these meetings. The BREEAM rating, energy targets, SHTMs and the overheating constraints were all requirements that were incorporated into the ERs for bidders to meet. The proposal put forward by Multiplex and accepted by the Board did require a compromise in SHTM compliance to the standard single bedrooms in a typical ward in the tower (i.e. in the QEUH) as recorded in the final Clarification Log (document entitled 'The Clarification Log_final agreed for contract') and the final M&E Clarification Log (document entitled 'ME Clarification Log_final agreed for contract').

47 I have been asked whether the maximum temperature variant was discussed during the Technical Review Group meetings and if so, what consideration was given to the removal of the maximum temperature variant. As I refer to above, I did not attend the Technical Review Group meetings and so cannot comment on what was discussed at these meetings.

48 I have been asked what weight was attached to the importance of SHTM compliance and why weight was attached to SHTM compliance. I wasn't involved in the Technical Review Group meetings but had an awareness that SHTM were important as they were standard guidance to be considered and in the design of the hospital. Their importance was confirmed in various sections of the ERs which the Technical Review Group supported drafting or had oversight on final text.

Exemplar Design

49 I have been asked to describe my involvement, if any, in the preparation of the Exemplar Design to inform the ERs, and how much reliance the Board placed on the Exemplar Design.

50 An exemplar design sets out a concept of how the client's requirements can be articulated into a building layout. In a healthcare context the exemplar design will show which departments go where, and which are next to each other. Design at this stage of the Project was up to the Royal Institution of British Architects' ("RIBA") plan of work stage 2 concept design. It was a concept with fixed parameters that bidders' proposed solutions were required to respond against.

51 I had no personal involvement in the activities and clinical / technical meetings in connection with the production of Exemplar Design. David Hall and Mark Baird were involved in that process on behalf of Currie & Brown. I consider that the Board were heavily reliant on the Exemplar Design as, from my knowledge at the time of the various stakeholder meetings that took place, the Board was fully involved in the process and the Exemplar Design reflected the discussions about their requirements at the time of its production. I recall that the Exemplar Design, 1:500 building layouts, 1:200 departmental layouts (for 18 departments), 1:50 room layouts (for 50 exemplar rooms), room data sheets (for 50 exemplar rooms) and an equipment list were all developed in consultation with the Board, including their project managers for the Adult and Children's Hospitals and clinical stakeholders.

52 I have been asked whether the stakeholders I refer to in the above paragraph included Infection Prevention and Control. As I did not attend the clinical / technical meetings in connection with the production of Exemplar Design, I do not know if Infection Prevention and Control was represented at any of those meetings. However, as far as I can recall, the Board's Project team did include a nurse and an Infection Prevention and Control nurse during all stages of the project.

53 Currie & Brown's role in the process was to coordinate the preparation of the Exemplar Design by the Technical Team. David Hall coordinated the design, managing our Technical Team to produce the exemplar layouts that responded to the briefing from the Board. I recall via conversations with Mark Baird and David Hall at the time and through having an awareness of the process via the commercial input that there was extensive user consultation to arrive at the drawn requirements which were the Board's scope and requirement summary for the Project and which was included in the Invitation to Participate in Dialogue (ITPD) documents used for procurement of the contractor to design and build the hospital.

Employers Requirements

54 I have been asked to describe my involvement, if any, in the preparation of the ERs. The ERs are written explanations of the technical requirements for the building, setting out a conceptual summary of the Boards "wants", needs, objectives and expectations. They described the "what" not the "how". The "how" rested with the bidding contractors to develop a response that met the requirements at a later stage

55 I had no personal involvement in the activities and meetings in connection with the production of the ERs. I reviewed the draft documents from a commercial point of view to check that the emerging requirements could be delivered within the approved budget level. I do not recall any major changes to the ERs from a costs perspective.

56 Currie & Brown's role in the process was to coordinate the preparation of the ERs. Mark Baird coordinated the ERs development with the Technical Team, managing feedback from the Board on the emerging documentation. As with the Exemplar Design, I recall via conversations with Mark Baird and David Hall at the time and through having an awareness of the process via the commercial input that the Board were fully engaged in this process including review of the documentation undertaken through the Technical Review Group. I am also aware of the three-day

review held with the Board from 25th March 2009 to 27th March 2009 prior to finalisation and issue of the ITPD. I have provided the Inquiry with copies of the Agenda and Key Issues documents for days 1,2 and 3 of this meeting. Attendees from the Board at this review session included Ian Powrie, Frances Wrath, and Hugh McDerment

57 I have been asked who was responsible for providing the requirements for the Clinical Output Specifications ("COS") and who approved the COS for inclusion in the ERs. The COS included within the ERs were the Board's documents and were a key part of the Board's scope for the Project. At a basic level, they set out standards for patient care and what each department was going to do, for example the expected number of patients attending A&E so that the size of the department could be considered. I have no knowledge of who within the Board was responsible for providing or approving the requirements, but I recall through my general involvement in the Project that these documents were prepared by the Board with support from Ian Buchan of Buchan Associates and were included within the ERs.

58 I have been asked who was responsible for confirming what the relevant NHS guidance was for the Project. I was not involved in the preparation of the ERs but understand this guidance would have come from the Board and the Technical Team.

59 I have been asked whether it was within Currie & Brown's remit to have awareness of the guidance. As I refer to at paragraphs 21 and 22 above, Currie & Brown's own employees engaged on the Project were project managers and commercial managers, not technical experts. During the initial pre-design phase, Currie & Brown engaged and relied upon the Technical Team for technical support and to provide comment on relevant NHS Guidance.

As explained above, when Currie & Brown's role on the project changed after the award of the Building Contract to Multiplex, Currie & Brown stood down its Technical Team to reflect this change in its role as per the Board's instruction (set out in Peter Moir's letter of 18 January 2010, the Revised Fee Agreement). From that point, Currie & Brown had no access to any technical expertise, but that did not form any part of Currie & Brown's changed role.

60 I have been asked to define the Technical Team which I refer to at paragraph 58. This was the team of technical sub-consultants engaged by Currie & Brown during the initial pre-design phase to which I refer and which I defined at paragraph 19 above.

61 I have been asked how sustainability and energy targets impacted on the design. From my awareness of the content of the bid clarifications and ultimately the contract logs agreed for inclusion in the Building Contract sustainability and energy targets set by the Board did have an impact on the design as bidders for the contract to design and build the hospital were required to consider low energy solutions to hit these targets. There was no separate budget for sustainability and energy targets and the available construction budget range for the Project was shared with bidders who knew that they were required to propose a design delivering the Board's requirements, including energy and sustainability, within that budget range. It is important to note that a detailed technical design had not been prepared at the ER development stage, and it was for bidders to set out their design, explain how that met or did not meet the Board's requirements, and provide their financial bid.

62 I have been asked who provided the specification for environmental data relating to air change rates, pressure differentials and filter requirements for inclusion in the ERs. I was not involved in this, however the design brief was mandatory compliance with SHTM 03-01. Any such specification was provided by Wallace Whittle as part of its input into the development of the ERs.

63 I have been asked to explain the circumstances, if any, that there could be variations to or situations where SHTM 03-01 was not complied with. I have also been asked to explain how this non-compliance would be agreed and who would have been involved in any decision to agree non-compliance. As I do not have a technical design background, and this did not form part of Currie & Brown's role during the design and construction stage of the project, I cannot comment from a detailed position of knowledge. However, I understand generally that derogations can be made on a project-by-project basis to suit the project's individual characteristics. Where a derogation is required, the relevant Stakeholders within the Board should be consulted. It would be for the Board to decide who should be consulted based on the proposed derogation.

64 I have been asked who was responsible for HAI-SCRIBE assessment regarding the proposed site development, design and planning and new construction. This is not something I had any involvement in, however through my general knowledge of the HAI Scribe process I am aware that this is a Board led activity.

65 I have been asked whether I am aware of whether the HAI-SCRIBE assessment described in the above paragraph was carried out. As I was not involved in HAI-SCRIBE assessment (as I explained in the above paragraph), I am not aware if any HAI-SCRIBE assessment was undertaken. From my general knowledge of the HAI-SCRIBE process, I would be surprised if an HAI- SCRIBE assessment was not undertaken, as there were various activities undertaken on the site prior to the main construction works, such as demolition of existing buildings where HAI risk would have required to have been managed, such as the management of dust from demolition for example.

Removal of the Maximum Temperature Variant

66 I have been asked whether I was involved in the decision to remove the maximum temperature variant in the hospital. **(Bundle 17, Document 26, Page 1063)** I was not involved in this decision and would not expect to have been involved in this decision from a technical perspective, as this is something that is outside my expertise. Through my general awareness of the Project from a procurement perspective I was aware that the issue of maximum temperature variant was being considered, and a clarification was issued by the Board to the bidders during the competitive dialogue stage but I cannot recall more than that.

Use of Chilled Beams

67 I have been asked about my input in and understanding of the decision to use chilled beams. I had no input into the selection of chilled beams but was aware that they were proposed as part of Multiplex's proposed design solution.

68 I have been asked whether I can "*recall*" why Multiplex chose to incorporate chilled beams in their design. I do not know why Multiplex chose to incorporate chilled beams in their design, as Currie & Brown was not involved in Multiplex's design process. This is a question that would be better put to Multiplex. However, from my limited knowledge of reading the bid evaluation papers, my understanding was that chilled beams were proposed by Multiplex or its design team as it was a low energy solution to achieving the various requirements of the ERs. I understood from those papers that this decision did, however, require a derogation in air changes to standard single bedrooms within the ward tower as set out in the contract logs.

69 It is difficult to say when or how I first became aware of the decision to use chilled beams in the design of the Project due to the passage of time, but I think it is likely I became aware from review of the bid clarifications and ultimately the scoring feedback from the technical review of bids. Whilst I was not involved in the technical review, I had to consider any technical clarifications issued which had a

potential impact on bid prices. I recall that potentially two of the three bids may have proposed Chilled Beams, but do not have access to the unsuccessful bid documents to check. The inclusion of chilled beams was not a concern to me as chilled beams were allowable in certain areas under the SHTMs and the ERs made reference to the consideration of chilled beams.

Competitive Tender stage April 2009 to December 2009

70 By April 2009, the Board's contracting strategy had changed significantly. Instead of carrying out a two-stage procurement route and letting the Building Contract on the Scottish Building Contracts Committee ("SBCC") Design & Build form, the Board had decided to carry out a single stage 'competitive dialogue' procurement process and to let the Building Contract on the NEC3 Engineering and Construction Contract (Option C: Target Contract with Activity Schedule) ("the NEC3 contract"), a standard form of engineering and construction contract.

71 I have been asked if I am aware of why the Board's contracting strategy changed significantly at this point. I do not know why the Board's contracting strategy changed at this point, and this question would be better put to the Board. However, my understanding - based only on my involvement in the decision which I detail at paragraphs 122 to 124 below - is that the NEC standard form of contract was increasingly being used in the health sector (NHS England Procure 21 Contractors' Framework was in place from 2003, and Health Facilities Scotland, now NHS Scotland Assure, introduced an NEC based contractors' framework in 2008/2009). I understood that this form of standard contract was considered to provide a better framework for collaboration. The Option C Target Contact option also provided a framework for pricing risk sharing / incentivisation that was necessary on a multi-million- pound construction project.

72 The Inquiry has asked a supplemental question as follows: "*The then guidance makes reference to access for cleaning etc. Do you recall any discussion as to how that would work in a single room hospital where many patients might be seriously unwell?*". I am unclear on the context of this question. However, I understand that an access and maintenance strategy was produced by Multiplex and I understand it should have addressed the maintenance requirements of the relevant SHTM.

73 During this stage, Currie & Brown assisted the Board in the management of the tender process, set out as Stage 1B in the Board's Invitation to Tender Document, by liaising with bidders, dealing with technical queries and clarifications (in May to August 2009), and finalised clarifications and technical schedules (in September to December 2009), again with the assistance of the Technical Team.

74 I have been asked whether I can assist the Inquiry by providing information on "*any consideration during the change of the impact on required Estates resources*". I recall that the Estates' requirements to manage a 100% single bedroom facility were more than the Board's existing facilities. The technical requirements of the major engineering systems in the new build facility also created a challenge for the Estates team as they would have to upskill and / or add new resources. This required the Board to prepare a maintenance delivery resource plan. I recall that the Board had Estates representatives on the Project Team to work on preparing this plan based on the systems in the new hospital being ready for implementation on handover. I recall attending a workshop in early 2009 that was held by the Board to consider the option of introducing a compliance period where the main build contractor (i.e. Multiplex) would provide maintenance for a period after the handover of the new facility. I suggested this option to avoid a "build & run" scenario where the contractor would complete the works, handover the facility, and not respond adequately to defects or support maintenance training. This option was also intended to provide the Board with maintenance support during the period after handover of the new hospitals. This would provide the Estates and Facilities teams with assistance with the transition from the previous facilities to the new buildings.

It would also provide additional time and resources to upskill the Board's maintenance teams to run the new facility. This option was rejected by the Board, and it did not feature in the procurement competition or ERs. I cannot recall why the Board decided to reject this suggested option and I do not have any notes from the workshop meeting.

75 Currie & Brown's role included management of competitive dialogue meetings, co-ordination of responses to bidders' clarifications / queries and tender evaluation. The tender process allowed bidders to set out how the Board's wants and requirements were to be delivered in the bidders' proposed technical solution. Different bidders would have their own proposals and Currie & Brown's role, together with its Technical Team, was to work with the Board to evaluate tender submissions.

Competitive Dialogue – April 2009 to August 2009

76 My role in the Competitive Dialogue phase was chairing the commercial competitive dialogue meetings and dealing with any commercial clarifications. There were four discrete sets of competitive dialogue groups that held separate meetings across distinct topics: Design, laboratories, logistics and commercial to cover relevant aspects of the ERs and emerging bidders' proposals.

77 I have been asked what weight was attached to SHTM/HTM design compliance being regarded as of paramount importance throughout the bidding process. The Board required the design to be SHTM/HTM compliant. The ERs stated "The Contractor in carrying out of the Works shall comply with the requirements of the documents listed in Table 2 – NHS Mandatory Documentation in Section5.1.2. Specific statements of compliance from an aspect and element of the bid return and evaluation process and requirements, with the requirement for bidders to clarify their approach during the bid period as an aspect of the dialogue process".

Although I was not involved in that element of the dialogue, which was covered in the design group, I was aware through the tender returns and requirements that SHTM/HTM compliance was given a high degree of importance during the bid submission as the bidders had to provide a compliance statement with their bid.

Bid evaluation – September 2009-October 2009

78 Following submission of the bids on 11 September 2009 the bid evaluation process commenced.

79 I have been asked to explain how the "*high degree of importance*" to which I refer at paragraph 76 above was reflected in the bid evaluation. The weighted scoring criteria defined the order of importance. Available marks for design equated to 62.5% of the overall available technical score.

80 The commercial and technical evaluation of the three bids was carried out separately. I was not therefore involved in the technical evaluation of the bids. Likewise, the technical evaluators did not know any of the bid submission prices. This clear separation was undertaken to avoid any unconscious bias creeping into the technical evaluation scoring.

81 The technical evaluation team were based at the Gartnavel Hospital for several weeks carrying out detailed review of each bidder's proposals, raising clarifications against points identified within the bids, and ultimately scoring the bids against the evaluation criteria set out in the ITT. David Hall and Mark Baird were involved in managing the technical evaluation process, and I recall there was a team of around 30 or so people involved in the technical evaluation including representatives from our Technical Team and members of the Project Team from the Board.

82 I led the commercial dialogue sessions and the commercial evaluation of the bids. I presented on the commercial sections of the bids to the Board which included comparisons, scoring and recommendations. The commercial evaluation mainly considered compliance with various contractual requirements, checking the price included all the necessary requirements, addressing any bid exclusions, and checking provision of compliant pricing activity schedules.

83 The actual price submitted, and any adjustments necessary for commercial clarifications, was only used as part of the MEAT (Most Economically Advantageous Tender) calculation as per the evaluation criteria set out in section 3 of the ERs. Price was not a principle deciding factor in selecting the preferred contractor, it was just part of the overall process for final score determination.

84 All the bids were below the maximum budget allocation stated in the ITPD document. The Multiplex bid was one of two bids that were around the “should cost” figure stated in the ITPD; another one was significantly below. The lowest bid was identified during the technical bid evaluation process to have not included all the requirements within the ERs and this contributed to a lower price.

85 I have been asked what advice, if any, Currie & Brown provided to the Project Team or the Board in respect of accepting Multiplex as the preferred bidder. The output of the technical and commercial evaluations was combined to produce the MEAT score, which was total points divided by bid cost. At the end of the bid evaluation process Currie & Brown reported the outcome of the MEAT score, along with the output of any bid clarifications, setting out what the bid included, to the Board.

86 I have been asked why Multiplex was awarded the contract following the competitive dialogue process. Multiplex was awarded the contract by the Board as it had the best MEAT score which resulted in it being ranked first. The process dictated that the bidder with the highest MEAT score would be the preferred bidder.

87 I have been informed that the Inquiry understands that the number of points allocated in respect of guidance compliance was relatively low and I have been asked to confirm my understanding. The bids were evaluated against various criteria set out in the ERs which included compliance with guidance. There was no sperate standalone score for compliance. Compliance was considered as part of the evaluation for each of the relevant technical evaluation points, for example the "Water Schematic Heating design strategy including MTHW Schematic & LTHW Schematic" was a scoring heading, and the bidders received a score based on how well their submission responded to the key factors within the ERs.

88 I have been informed that the Inquiry understands that the bid scoring breakdowns were only provided to the Performance Review Group, but not the Board, and have been asked to explain my understanding of the position. I do not have full knowledge of the internal discussions between the Board and the Board's Project Team, but my own knowledge and understanding of the position is as follows. A Board Seminar meeting was held on 22 October 2009 to provide the Board members with an update on the evaluation process. I understand that a Board Seminar is a meeting of the Main NHS Board held without public attendance. I attended this Board Seminar on 22 October 2009 along with David Hall and Mark Baird from Currie & Brown. The attendees were given visibility of the bid evaluation process as part of a presentation about the overall evaluation. The overall MEAT score awarded to each bidder was provided to the attendees at that meeting, but not the detailed breakdown of the scoring.

However, at the Performance Review Group meeting held 3 November 2009 (which I attended along with David Hall and Mark Baird from Currie & Brown), the attendees were given visibility of the scoring split between key headings of design, logistics and commercial. I am not aware of whether the attendees of that meeting had sight of the breakdown of each individual scoring component. I understand the Performance Review Group meeting was the final approval governance gateway to accept Multiplex as preferred bidder and allow bidders to be told the outcome of the procurement competition on 4 November 2009. I do not know what other discussions or communications there may have been between the Board members and its Project Team about this decision.

Ventilation Derogation

89 I have been asked to explain my understanding of the ventilation design strategy contained in the Contractor's Tender Return Submission (11 September 2009) **(Bundle 18 Volume 1, Document 8, Page 205)**. I have been asked whether the ventilation system was to be a mixed mode ventilation system (dependent on a non-sealed building) or a mechanical ventilation system (dependent on a sealed building). Currie & Brown's Technical Team and the Board were involved in the technical evaluations of the bids. I did not have any involvement in the ventilation design strategy. I became aware that it was a mechanical ventilation system for a sealed building through general discussions and as part of the feedback from the technical bid evaluation process.

90 I have been referred to the M&E Clarification Log **(Bundle 16, Document No. 23, Page 166**) and have been asked whether the design and/or specification of the ventilation system as recorded in the Building Contract, in particular, in the M&E clarification Log was compliant with NHS Guidance. The ventilation in the standard single bedrooms in the adult tower block was not in line with the number of air changes recommended in SHTM 03-01 as noted in the Log. I was aware of this at the time through the clarification questions asked to the bidder and their responses which were then entered into the Clarification Log and then ultimately the M&E Clarification Log for inclusion in the Building Contract.

91 Given my comments in the above paragraph, I have been asked to explain my understanding of why the design of the ventilation system in the standard single bedrooms in the adult tower block, which was not in line with the number of air changes recommended in SHTM 03-01 as noted in the Log, was proposed and ultimately accepted. I was not involved in this decision, or qualified to consider elements of technical design, and am unable to comment on how Multiplex came to propose this design. I refer to my comments at paragraph 105 below in relation to my understanding of how the proposal was accepted by the Board.

92 I have been asked to explain what role BREEAM played in the acceptance of the design referred to in the previous paragraph. As noted above I was not involved in this decision, or qualified to consider elements of technical design, so I do not know what role BREEAM played in the acceptance of the design. However, my understanding was that BREEAM had no impact on the design proposals. I understood that the design solution was based on compliance with overheating requirements and energy usage.

93 Clarification Logs were bid-specific documents and so there was one for each bid. I recall that the Clarification Logs were a list of all clarifications recorded and discussed with the bidder and so were wide-ranging documents. The M&E log was confined to M&E issues and provided the audit trail of close out of those issues that required resolution during the preferred bidder process prior to contract award. It is not unusual for a preferred bidder which has been recommended following a bid evaluation process to have outstanding issues that require resolution prior to entering into the contract. I was not involved in the technical bid evaluation, but I was aware from the debrief on this that each of the other two bidders would have had issues to resolve should they ultimately have scored the highest MEAT score.

94 I have been asked to describe the kind of issues that each of the other two bidders would have had to resolve in the above paragraph. I cannot recall all the issues, which would have arisen from the technical evaluation scoring (in which I was not involved). The Performance Review Group presentation on 3 November 2009 **(Bundle 17, document 66, page 2715)** sets out some of the deficiencies within each of the unsuccessful bidders' proposals.

95 I have been asked to describe the role that the temperature variant played, by which I presume this means in respect of the Board's decision to remove the maximum temperature variant. The Invitation to Participate in Dialogue required the bidders to submit a mandatory variant bid that addressed the criteria of a Maximum Temperature provision (26degC). These mandatory bid requirements were removed from the tender process during the competitive dialogue period. As I refer to at paragraph 66 above, I do not know what role the temperature variant played and am not technically qualified to comment on that. However, I understand – only from review of the technical evaluation notes - that the maximum temperature parameters that the bidders were required to consider were a factor in the sealed building and use of chilled beams.

96 During the bid evaluation process, it was identified that the Multiplex bid included 2.5 air changes which was not in line with the number of air changes recommended in SHTM 03-01 (six). When Multiplex achieved preferred bidder status, the Project team worked with Multiplex to try and understand the reason for this and if it was an acceptable solution. I was not involved in this process but recall that the issue was entered onto the M&E Clarification Log when Multiplex became preferred bidder. The proposed number of air changes was noted to be initially unacceptable and there were then discussions regarding the proposal. Although I wasn't involved in any discussions regarding technical clarifications, I had an awareness that there were ongoing discussions between the Board, Multiplex and our Technical Team to arrive at the final acceptable solution as I was responsible for reviewing the logs (Clarification Log, M&E Clarification Log and any other logs listed in the contract) to consider anything that would impact the target price from a financial perspective.

97 I have been asked if I recall any issues being raised in respect of meeting the ventilation requirements of SHTM and potential impact on the target price when reviewing the logs as described in the above paragraph. The derogation from SHTM in the ward tower single bedrooms was highlighted as an issue that was required to be resolved. This resulted in the various meetings between the Board, Multiplex, and our Technical Team to arrive at an agreed position. The technical position noted in the contact logs is the final agreed position which resulted in a £250,000 adjustment in the target price.

98 I have been asked whether I consider that achieving the target price was prioritised above achieving SHTM compliance. I do not consider this to be the case. At no point was a change from Multiplex's design proposals requested by the Board. If this had been requested, the cost implication would have been assessed. There was an adequate contingency/risk sum within the overall budget if the requirement to achieve SHTM compliance in the ward tower single bedrooms had been requested.

99 I have been asked to explain how Multiplex was selected as the preferred bidder given that its design submissions did not comply with the mandatory compliance with SHTM contained within the ERs. As I set out at paragraph 86 above, Multiplex was identified as preferred bidder as its MEAT evaluation score was the best out of all bids received.

100 I have been asked what role, if any, BREEAM played in the acceptance of this design. As I wasn't involved in the technical bid evaluation, I do not know the detail of the discussions at bid evaluation stage. My knowledge was gained from review of the clarification logs and the debrief I received from the technical evaluation. So far as I am aware, BREEAM had no significant influence in the discussions regarding the ventilation system. Whilst not involved in the discussions to close out technical matters at preferred bidder stage, I was aware that discussions were happening with the Board on the acceptability of the bidders' proposals. This question is better directed to the Board and others involved in the technical assessment.

101 The Inquiry have directed me to the ventilation section of the Design Summary documents reference (**Bundle 43, Volume 2, Document No.21, Page 308**) where it is noted that ward air changes were showing as 2.5 AC/HR which was lower than the SHTM 03-01 requirement of 6AC/HR. The Inquiry have referred me to the "Brookfield Comment" section of this document on page 5 which states "Brookfield proposal as outlined within the bid submission is to incorporate chilled beams as a low energy solution to control the environment which do not rely on large volumes of treated air or variable natural ventilation. All accommodation is single bedrooms and therefore the need for dilution of airborne microbiological contamination should be reduced (rooms could also be at slightly negative pressure to corridor). Providing 6 air changes is energy intensive and not necessary". I have also been referred to the comment inserted on the same document by John Bushfield of Wallace Whittle which states "This derogation to the SHTM is not accepted. Any variation would require Board clinical infection control review"

102 I have been asked what concerns I had at the time regarding non-compliance with SHTM. As I was not involved in either the technical design or technical evaluation of bids, non-compliance with SHTM was something that was outside my remit. From my knowledge of the technical bid evaluation scoring debrief and possibly via discussions with Mark Baird, David Hall, Peter Moir and Alan Seabourne at the time I was aware that the non-compliance with SHTM was being discussed with various representatives, but I do not recall any concerns being raised in the debrief from the technical bid evaluation meetings.

103 I have been asked whether the ventilation section of the Design Summary documents was the first-time non-compliance with SHTM was brought to my attention in respect of ventilation. I became aware of this non-compliance with the ERs when the clarification logs began to be produced in around October or November 2009. It is important to note that any technical non-compliance would not be specifically brought to my attention as I was not involved in the technical design. Instead, I only became aware of any technical issue if it had the potential to have a financial implication for the Project.

I might also have been aware via discussions with Mark Baird, David Hall, Peter Moir and Alan Seabourne at the time, although I cannot say for sure. At no point was the capital cost impact of this decision requested from myself, nor was the cost to revert to 6AC/HR requested. At preferred bidder stage the Board had a risk/contingency sum of approximately £80million and if a change was required the funding would have been available to do this.

104 I have been asked whether the risk/contingency sum which I refer to in the above paragraph was ever used, especially in regard to ventilation. I recall that around half of the contingency/risk sum was used on Compensation Events under the Building Contract with Multiplex. From the records of the Compensation Events issued, approximately £750K was spent on ventilation and associated work, most of which was in connection with the brief change to Ward 4B.

105 I have been asked what action, if any, I took to obtain Board clinical infection control review on the ventilation proposal contained within the Design Summary documents in light of John Bushfield's comment detailed above. I did not take any action because I was not involved in the technical design, and this was not within my remit. It was for the Board to take any such action if required.

106 I have been asked how, given John Bushfield's comments, the derogation came to be accepted by the Board. I have no personal knowledge from that time of how the derogation from SHTM came to be approved at a senior level within the Board. My knowledge is that the derogation flowed through the Clarification Log into the M&E Clarification Log. I was aware that the Board Project Team were involved in the production of the logs and approved the derogation through the M&E Clarification Log which noted the discussion and final agreement.

107 I have been asked when I first became aware of the ZBP Ventilation Strategy paper dated on or around 15 December 2009. **(Bundle 16, Document No.21, Page 1657).** I cannot remember when I first became aware of this document. There would have been no reason for me to have seen or considered the document from a technical perspective as that was outside my remit.

108 I have been asked when I first became aware of the ventilation derogation recorded in the M&E Clarification Log. **(Bundle 16, Document No. 23, Page 1662).** I became aware of this in around October / November 2009 during the bid clarification process as the issue appeared on the Clarification Log. Every time a clarification was required, the Clarification Log was updated and circulated. I read and noted the issue from a financial perspective in line with my remit. I would not have discussed the issue with others unless there was a financial impact, which there was not for the reasons already explained above.

109 I have been asked about the advice the Board sought from Wallace Whittle regarding the ZBP Ventilation strategy. Whilst I was probably aware from general discussions at the time that advice was being sought, my only real substantive knowledge of this came after the end of the Project, from reading emails and the like. I do not recall having sight of any calculations provided by Wallace Whittle. I had no knowledge at the time of any escalation of the document beyond the Board Project Team, nor did I have any understanding of the reliance to be placed upon this document.

110 I have been referred to three email exchanges between Mark Baird and Stewart McKechnie of Wallace Whittle, dated 15 and 16 December 2009**. (Bundle 16, Document 21, Page 2863).** I was not a party to any of these email exchanges at the time and therefore suggest that any questions regarding these emails are better posed to Mark Baird and Stewart McKechnie.

111 I have been asked if I am aware of any formal risk assessment carried out by the Board in respect of the change to the ventilation strategy that appears to follow the ZBP Ventilation Strategy Paper. (**Bundle 16, Document No.21, Page 1657**). I am not aware of any risk assessment and as I was not involved in the technical design or evaluation I would not expect to have been aware of any risk assessment.

112 I have been informed that the Inquiry is aware of several departures from SHTM 03-01 Guidance in relation to air change rates, pressure differentials and filtration requirements. I have also been informed that the Inquiry is also aware of a variation to the primary extract arrangement for PPVL isolation rooms from that set out in SHPN 04 Supplement 01. I have been asked whether Currie & Brown was aware of departures from SHTM 03-01 guidance in respect of air change rates, pressure differentials and filtration requirements. If Currie & Brown was aware of departures from guidance, I have been asked how Currie & Brown communicated these departures to the Board Project Team and whether if no action was taken by the Board, Currie & Brown were under an obligation to report matters further.

113 Currie & Brown was aware of derogations to guidelines which were raised during the competitive tender process, tender evaluation and preferred bidder stages. There was ongoing design development following award of the Building Contract to Multiplex where further design solutions were proposed by Multiplex and reviewed and considered by the Board or by Capita in its role as NEC Supervisor on the Board's behalf. Currie & Brown was not under any obligation to escalate derogations beyond the Board, its employer, particularly where the Board was already informed of these matters. Members of the Project Team were actively involved in reviewing design matters and confirming that they continued to meet the Board's requirements. It was not within my or Currie & Brown's expertise or remit during the construction stage to advise on any derogations after our Technical Team were stood down as we did not have the technical expertise to comment on any changes.

114 I have been asked whether the ventilation derogation noted in the M&E Clarification Log was recorded in the Full Business Case and who was responsible for this. The Full Business Case was a very detailed document which was completed in accordance with the Scottish Government's Capital Investment Manual guidance and was the final justification to seek full budget approval for the Project. It was completed by the Board and submitted in 2010, approximately 12 months after Multiplex was awarded the Building Contract and following the period of Multiplex's design development.

I provided the Board with the financial information to include in the document but barring potentially the project management aspects of the document, I did not review non-commercial aspects and so was not aware of this at the time.

115 I have been asked to describe how the ventilation derogation was signed off by the Board and specifically of the involvement of Helen Byrne, Alex McIntyre and Peter Gallagher. I do not have knowledge from the time of Helen Byrne, Alex McIntyre and Peter Gallagher being involved, but it is my understanding that these people were notified of the derogation by the Project Team. I became aware of this from Alan Seabourne after the Project was completed.

Design and construction phase 2010-2015

116 The outcome of the competitive tender process was that the Building Contract was awarded by the Board to Multiplex on 18 December 2009 in the NEC3 form of contract.

117 During the design and construction stage that followed the award of the Building Contract I provided support to Peter Moir with contract administration through the Early Warning Notice ("EWN") process. Early Warning Notices are a standard feature of NEC contracts and were an early indication of something that may have affected the ability of Multiplex or the Board to deliver under the contract or affect the programme and/or cost of the works. EWNs were raised by Peter Moir on behalf of the Board or separately by Multiplex.

118 An EWN may have impacted the contractual ERs and as such could lead to a Compensation Event to change the contract requirements. The Compensation Event notice would be drafted by the Board, and I would consider the financial value and report back.

119 There was an EWN Meeting which started shortly after Building Contract award in early 2010 and ran weekly through to mid-2015. All EWNs were reviewed, and appropriate actions were agreed, at these weekly EWN Meetings. After mid-2015, EWN meetings were less frequent and from my records the last meeting was around August 2016. EWNs did not always lead to the issue of a Compensation Event as it may have been possible to agree and carry out actions to prevent the issue reaching this point. The Board chaired and minuted the EWN meetings. Peter Moir and Alan Seabourne, and then David Loudon after Alan's retirement, attended these meetings on behalf of the Board.

Representatives from Multiplex also attended these meetings. I attended EWN Meetings to consider the financial implications of the EWNs and Compensation Events. I was not asked to consider any non-financial consequences that arose from an EWN. David Hall would also attend the EWN Meetings to consider the impact of the EWNs from a programme perspective, i.e. whether it would affect design process and require necessary review by the Board's clinical users that would then have to flow through the Board's Adults Hospital and Children's Hospital Project Managers for necessary input. The minutes of these meetings confirmed the issues discussed and the agreed actions to deal with the issue raised. Capita didn't attend as they had their own quality meetings.

The Board's Decision to assume the role of Project Manager

120 The Board assumed the formal role of Project Manager under the NEC3 contract at the point the Building Contact was awarded to Multiplex, as stated above. The Board then became responsible for contract administration.

121 Currie & Brown's scope of service was significantly reduced on appointment of Multiplex to reflect this change in the Board's revised project delivery strategy, as explained above.

122 I have been asked what my understanding was of the rationale of the Board's decision to assume the formal Project Manager role at the time. I recall this change came about following initial market engagement with potential bidders and the subsequent change from the SBCC contract to the NEC3 form of contract. I was involved in some of the discussions between Peter Moir, Alan Seabourne and some of the Board governance groups and some of the meetings with potential bidders where this procurement strategy was discussed and feedback presented.

123 My understanding from discussions at the time with Peter Moir and Alan Seabourne is that the Board decided to carry out the role of NEC Project Manager itself to retain control over those functions. I also recall that it was discussed at the time that the NEC form of contract was commonly used in healthcare projects in England and was becoming more the norm in Scotland for healthcare projects. The NEC form of contract was also seen to be a more collaborative contract than the SBCC contract and provided a standard contract suite for risk sharing, with the Option C Target Cost contract ultimately adopted for use on this Project.

124 In addition, Peter Moir was an extremely experienced architect who had experience of major healthcare projects having previously delivered the ACAD Hospitals for the Board. Although this was a slightly different procurement and contract process, Peter had experience of major contracts and how to manage them.

125 I have been asked what the impact of the Board's decision to carry out the role of NEC Project Manager was. The impact for Currie & Brown was that Currie & Brown was no longer responsible for acting as Employers Agent/contract administrator and checking the delivery of the ERs during the design and construction phase. Under the original Board tendered requirements for Lead Consultant and Technical Team, Currie & Brown would have acted as Employer's Agent responsible for contract administration and checking compliance with the ERs via our appointed Technical Team.

The NEC supervisor under the NEC form of contract was responsible for review of delivery of the works in accordance with the contract requirements (this role was eventually awarded to Capita). I recall from discussions at the time and from the Revised Fee Agreement that this, along with the Board having internal resources was the reason for the Board instructing us to stand down our Technical Team for any works, unless otherwise agreed, following the award of the Building Contract to Multiplex in the NEC form.

126 I have been asked to describe who from the Board asked Currie & Brown to stand down its Technical Team as described in the above paragraph and how this request was communicated. The instruction to stand down the Technical Team was communicated to Currie & Brown by Peter Moir and Alan Seabourne. Peter Moir's letter of 18 January 2010 (the Revised Fee Agreement) confirmed the instruction and what was required from Currie & Brown during the next stages of the project.

127 As the role of compliance checking delivery against the ERs had originally been part of the Employer's Agent role that had originally been intended to be awarded to Currie & Brown, prior to the service variations agreed after the award of the Building Contract to Multiplex, Currie & Brown submitted a fee proposal for the formal role of NEC Supervisor. However, the Board did not accept this proposal and Currie & Brown was not part of the separate formal tender process for the role of NEC Supervisor under which Capita was ultimately appointed.

128 Capita was employed by the Board as NEC Supervisor. In that role Capita assumed responsibility for checking delivery of the ERs. As set out below, David Hall helped with the Project process by receiving reports, but Currie & Brown did not control or manage Capita as we had no contractual relationship with them.

129 I have been asked whether in hindsight I think it was the correct decision for the Board to assume the role of Project Manager. I would say it was the correct decision to move to the NEC form of contract as it was more collaborative and provided the financial risk sharing framework that a major project of this nature required. I have no reason to question the decision, as the Board had an experienced technical individual in that role (Peter Moir).

130 I have been asked which M&E issues Currie & Brown engaged Wallace Whittle to address during the design and construction phase of the Project. The Board decided if support was needed from Wallace Whittle and Currie & Brown agreed a fee for any involvement. In practice, Peter Moir or Alan Seaborne requested this via David Hall or me. It was not within Currie & Brown'sremit to instruct any of the Technical Team without instruction from the Board.

131 I cannot recall everything that Wallace Whittle was engaged on but do recall that their advice was requested by the Board in respect of HV electrical systems, in particular back up generation strategy. Wallace Whittle was also asked by the Board to undertake a review in 2010 of the draft emerging room environmental matrix.

132 I have been informed that the Inquiry understands that at some point during the design and construction phase, Multiplex decided to directly engage Wallce Whittle as part of its own technical team which meant that Wallace Whittle was involved in the Project in two separate capacities. I have been asked what the impact was, if any, of this decision. I recall that ZBP were acquired by Wallace Whittle following their insolvency and that ZBP employees transferred over to Wallace Whittle. ZBP had been involved in the MEP design since competitive dialogue stage, and I recall that Multiplex wanted to retain the input of the design team who transferred to Wallace Whittle due to their extensive knowledge of the Project to that point. I have been asked whether in hindsight I think it was the correct decision for Multiplex to engage Wallace Whittle. I consider that the decision maintained continuity of designer involvement on the Project and was therefore a reasonable decision.

Reviewable Design Data (RDD) process

133 I have been asked what involvement I had in the RDD process and User Group Meetings. I did not have any involvement in the RDD process. I am aware through discussions with Alan Seabourne and Peter Moir at the time that the Board agreed extra duties for Capita to become involved in the MEP design reviews. I am aware that Capita was awarded additional fees for this work and have noted Capita employees' initials on some of the drawings to be reviewed.

134 I have been asked how the technical requirements (air change rates, pressure differentials and filter requirements) for the rooms were managed and approved, including my role and involvement. Currie & Brown had no technical role in reviewing or approving technical requirements (air change rates, pressure differentials and filter requirements) and so I cannot comment on how they were managed or approved. The Board and Multiplex managed this process together. I recall that the RDD process was managed in Multiplex's Aconex document management system. I have an Aconex licence, but as I was not involved in the RDD process or the RDD workflow on Aconex and do not know how this process worked.

135 I have been asked to outline my understanding of the additional duties that the Board agreed with Capita which I refer to at paragraph 134 above. I have also been asked to describe how these additional duties were to be carried out and whose signatures I recognise as being Capita employees. As Currie & Brown did not manage Capita I do not have any knowledge of the additional duties agreed between the Board and Capita. I am, however, aware from conversations during attendance on site that Capita was undertaking design reviews to support the RDD process. The only signature I recognise is Alan Follett and this is from drawing ZBP-XX-XX-SC-524-707 RevB **(Bundle 22, volume 1, document 9.11, page 266)** downloaded from Aconex in connection with my investigations for the Public Inquiry, the Board's civil claim and the Police Scotland investigation.

136 Any decisions at user group meetings which fed into the RDD process and resulted in a change in design/ERs should have generated an EWN and entered the EWN process for review and agreement on actions. I became aware of any issues arising from RDD from a commercial perspective at the EWN Meetings which I attended.

Intended use and purpose of Ward 4B; Ward 4C; Level 5; Critical Care; Ward 2A & 2B; PICU and all Isolation rooms

137 I have been asked to describe the intended use and purpose of the following wards in QEUH/RHC: Ward 4B – QEUH; Ward 4C – QEUH; Level 5 – QEUH; Critical Care – QEUH; Ward 2A & 2B – RHC; PICU RHC – RHC; all Isolation rooms. The intended use for these wards was as set out in the schedule of accommodation and the Clinical Output Specifications. Part way through the Project the plan for Ward 4B of the QEUH was changed from its original intended ward to become the Adult BMT ward.

138 The specification for these wards was set in the SHTMs noted in the ERs, the sample Room Data Sheets issued with the tender inquiry. Any post contract changes were either confirmed as part of the RDD process or as Compensation Events issued under the Building Contract. I am not aware of any specific Compensation Events instructing changes to the ventilation system other than for Ward 4B (Compensation Event Nr 51) and Hepa filter omission (Compensation Event Nr 14, discussed below). There was also a Project Manager's Instruction for the removal of carbon filters (discussed below). I was aware of these changes from my involvement in EWN Meetings and from agreeing the financial impact of the changes.

139 I have been asked what guidance was considered in the design of these wards and what processes were in place to ensure guidance compliance. As set out above, Currie & Brown coordinated development of the ERs by the Technical Team and the Board. The ERs set out the guidance that should have been considered in the design and construction of the Project. Currie & Brown had no technical input into the design of the wards, which was the responsibility of the Board and Multiplex. It was for the NEC Supervisor to check compliance with the ERs.

140 I have been asked if there were any changes to the design of these wards during the design and build process, and if so, to describe such changes and the impact, if any, on guidance compliance as set out in Appendix 3. I have also been asked to describe the sign-off process for any such changes, my involvement, how any changes were communicated to the Board and whether any external advice was sought in respect of design changes.

141 Through my involvement in the EWN and Compensation Event process I was aware that the Board instructed changes to Ward 4B through the issue of a Project Manager's Instruction (Project Manager's Instruction number 228 dated 2 July 2013) and a request for quotation and design proposals. Multiplex provided a price and outline specification for the works which was reviewed by the Board and formalised into a Compensation Event (Compensation Event 51 dated 2 October 2013). I was responsible for reviewing and agreeing only the value of the Compensation Event. The technical aspects of the Compensation Event were reviewed and approved by Peter Moir and through the RDD process.

142 I recall that the financial implications of the change to Ward 4B were significant because this change disrupted the sequence of work. The construction works, which were already completed, had to be stripped out, and new works installed to meet the new design agreed. As part of the Compensation Event process, I saw Multiplex's outline specification which confirmed the design parameters that could be achieved for the ventilation systems.

These were below the SHTM requirements as Multiplex advised that the Air Handing Unit servicing Ward 4B was at maximum capacity of 6 air changes per hour. A technical review of the design was not Currie & Brown's responsibility. The Board had to check that the revised specification proposed by Multiplex met their requirements. It was noted in Project Managers Instruction 228 that design meetings were to be held with Heather Griffin, the Boards project manager for the adult hospital.

143 The Board accepted Multiplex's quotation for Ward 4B alteration works under Compensation Event 51 and did not instruct any change to the air handling capacity. I cannot recall if the Board took any advice on this from Capita (who they had engaged on other technical design reviews in support of finalising the design) or any other party. Currie & Brown was not requested to engage our Technical Team to undertake any review, so we were not involved in the technical or compliance aspects of this decision.

Carbon Filters

144 I have been asked about my involvement in and understanding of the decision to remove carbon filters from the hospital. I have also been asked what the rationale behind this decision was, who was involved and what advice, if any, was sought in reaching this decision. I had no involvement in the decision to remove carbon filters across the hospital, save that I was generally aware of the decision through the EWN Meetings.

Ward 4B and 4C

145 I am told that the Inquiry understands that Ward 4B was originally intended to provide accommodation for Renal and Haemato-oncology patients and I have been referred to the 2009 COS for Ward 4B (Inquiry bundle 16, document 15,page 1595). I have also been referred to a Change Order Request in July 2013 made by Jonathan Best **(Inquiry bundle 16, document 29, page 1699)** where it was confirmed that the Bone Marrow Transplant (BMT) service would transfer to Ward 4B in the QEUH and the haematology patients that were originally planned to accommodate Ward 4B would move to Ward 4C. I have been asked how this change was communicated to Currie & Brown and how this change was captured in the revised design and specification documentation. The change was communicated to Currie & Brown via the EWN meetings where the instructed change (Project Managers Instruction 228) was raised to Multiplex to develop a design solution as they were responsible for the design and specification. The revised design and specification were captured in the Compensation Event Nr 51 issued by the Board as NEC Project Manager. The revised design was prepared by Multiplex and flowed through the RDD process.

146 I have been asked why suspended ceilings were installed in Ward 4B given that the COS referred to '*space sealed'*. I am unaware why suspended ceilings came to be installed in Ward 4B as this is a technical design/construction issue and was not therefore within my remit or Currie & Brown's remit. As NEC Supervisor, Capita was responsible for identifying any non-compliance with the "Works Information".

147 I have been asked who approved the reflected ceiling plans for this area. As I was not involved in the design, and this was not part of Currie & Brown's remit, I was not aware at the time who approved the reflected ceiling plans for Ward 4B. With the benefit of reviewing the matter now, it seems that this came through the RDD process for the Board to review and approve.

148 I have been asked whether as construction progressed on site, suspended ceilings were highlighted as non-compliant with the COS. I am not aware whether Capita had highlighted the installation of suspended ceilings as non- compliant with the COS but as NEC Supervisor it was Capita's responsibility to do so.

149 I have been asked what the specification of Ward 4C was at the point of the Change Order prepared by Jonathan Best on behalf of the Board dated 9 July 2013 and whether I understood that Ward 4C was to be used to house immunocompromised patients. If so, I have been asked what the justification from departing from SHTM guidance in respect of ventilation was and who signed this off. I recall that the 4th Floor of the adult tower (i.e. the QEUH) was to accommodate renal inpatients and day care patients. I cannot recall what the function of Ward 4C was originally intended to be. The only change I was aware of within level 4 was the omission of Hepa filters to 8 rooms (Compensation Event 14 dated 16 September 2010). I became aware of this through the EWN Meetings, and my involvement was limited to assessing the cost impact of this change.

150 I have been asked what my understanding of the requisite air change rate required in accordance with SHTM guidance in respect of Ward 4B and 4C was and whether this air change rate was achieved. If the required air change rate was not achieved, I have been asked why not, who signed this off and what risk assessments were considered in respect of this decision.

151 Currie & Brown was not involved in technical design. Responsibility for design of the ventilation system was with the Board and Multiplex. I am not aware of any changes to Ward 4C design other than the omission of Hepa filters to 8 rooms referred to above which I was aware of from a financial perspective. I recall that the 4th Floor adult tower was to accommodate renal inpatients and day care patients. I cannot recall which function Ward 4C was for, but it was the responsibility of the Board and Multiplex to ensure that the design met the requirements for the required renal function.

152 In connection with Ward 4B the design solution changed during construction, as a result of Compensation Event 51 dated 2 October 2013, from chilled beams to full mechanical ventilation in order to meet enhanced ventilation requirements, which I understand was to be 10AC/HR. As Currie & Brown was not involved in technical design, my knowledge of this came via the EWN Meetings. The Board accepted Multiplex's design proposal through the Compensation Event process. I reviewed the financial agreement of the Compensation Event.

153 I am aware that Multiplex was unable to meet the full 10AC/HR due to the constraints of the existing (already installed) air handling units and main vertical ventilation ducts. I recall that the achievable air change rate was around 6AC/HR and this was communicated by Multiplex to the Board in the outline specification for the Ward, and then I understand was subject to RDD for the Ward which the Board managed.

Ward 2A and 2B RHC

154 I have been asked to confirm what my understanding was regarding the intended use and purpose of the Ward 2A/2B, what guidance was considered in the design of these wards and what processes Currie & Brown put in place to ensure guidance compliance. The Board and Multiplex were responsible for technical design and ensuring that the design was compliant with guidance. Capita as NEC Supervisor were responsible for checking that what was built was compliant with the ERs.

155 I recall that Ward 2A and 2B were intended to be used as a paediatric oncology unit. However, as I was not involved in the design, I am not able to comment on the design in detail.

156 I recall that there were compliance reviews at the bid submission phase as part of the technical evaluation and thereafter during the construction phase by the Board team. Compliance with ERs ought to have been validated by Capita in their role as NEC Supervisor in the construction phase. From review of contract log documentation there was no derogation to the SHTM requirements in the children's hospital and as such at point of contract award, and the stopping of Currie & Brown technical role, the design required to be SHTM compliant.

157 I have been asked what changes, if any, were made to the design during construction and to describe both the impact of any changes on guidance compliance and the sign-off process for any changes. As Currie & Brown was not responsible for design, I was not a party to technical design discussions but had an awareness through the Project Management and EWN Meetings of some of the design issues that arose where they had financial consequences. I was unaware of any design changes away from the ERs to these wards during the construction stage. Technical sign-off for any changes to the ERs would also be managed via the EWN process should an issue have arisen that affected delivery of the ERs and it was for the Board and Multiplex to agree and implement any actions in respect of technical design.

158 I have been asked to describe the IPC involvement in the design of Wards 2A and 2B and who signed off the final design and at what point. As neither Currie & Brown or I was involved in the design process, I am unaware of the level of IPC involvement in the design of these wards and who was involved in the final sign-off. It was for the Board to arrange any IPC reviews.

159 I have been asked what concerns, if any, I had regarding the final design specification of Wards 2A and 2B, and what action, if any, I took in respect of any concerns I held. Whilst I was not involved in the technical design and am not qualified to comment on that, so far as I can recall, nothing was raised in the EWN Meetings or the regular Progress Meetings I attended which suggested that the design was not compliant with the Board's requirements.

160 I have been asked what my understanding of the requisite air change rate required in accordance with SHTM guidance in respect of Ward 2A and 2B was, and whether this air change rate was achieved. If the required air change rate was not achieved, I have been asked why not, who signed this off and what risk assessments were considered in respect of this decision. Delivery of required air rates was Multiplex's responsibility and as NEC Supervisor it was Capita's responsibility to verify compliance. As I wasn't involved in the technical design, I am unable to comment on this. I do not know if any risk assessments were considered in respect of any decision relating to air change rates and would not expect to be notified of any such risk assessment, unless there was a commercial consequence to obtaining this.

Isolation Rooms

161 I have been asked to describe how the number and location of the isolation rooms was agreed and who approved the final number and locations of these rooms. I had no involvement in this, however I am aware that the number of Isolation Rooms was identified in the Board's schedule of accommodation which was provided in the pre-construction design stage.

162 I have been asked who was responsible for producing the drawings and the specification for isolation rooms and who approved these from the Project Team. Multiplex was responsible for producing the drawings for isolation rooms during the design and construction stage which were to be compliant with the SHTM. I had no involvement in the approval of drawings and specifications. The Board instructed Capita to support the Board with review of drawings during this period and the drawings should have been reviewed by Capita and the Board Project Team.

163 I have been asked what concerns, if any, I had regarding the compliance of isolation rooms with SHTM/HTM and what action, if any, I took in respect of any such concerns. This was not part of Currie & Brown's remit but so far as I was aware nothing was identified during the EWN Meetings or Progress Meetings I attended that suggested that the design was not compliant with what the Board required. It was only after handover of the hospital that I became aware from attending various meetings that it had been raised that the isolation rooms may not be compliant. I recall there were meetings to discuss this between Multiplex, the Board, and Capita as the NEC Supervisor. Whilst Currie & Brown had no design responsibility, I attended one meeting where this was discussed post- completion. My recollection is that it was a compliance issue that required the NEC Supervisor, Capita, to provide guidance to the Board and to issue a defect notice. Currie & Brown had no involvement in this and was not requested to engage its Technical Team to assist. I am aware that Wallace Whittle attended some of these meetings but its attendance at these meetings was in its capacity as designer for Multiplex (having acquired ZBP following their insolvency). I am not aware of whether any formal defect notice was issued by Capita post- completion.

164 I have been notified that the Inquiry has reviewed an excel format of the RDS and have noted the following entry under "design Notes" relating to Ward 2A Isolation Rooms: "WARNING NOTICE: This room is based on a theoretical design model; which has not been validated (see paragraph 1.8 of HBN 4 Supplement 1). Specialist advice should be sought on its design. The lamp repeat call from the bedroom is situated over the door outside the room."

165 I have been asked whether this note was entered on the Room Data Sheets (RDS) and if so why and by whom. I have no knowledge of the status of this note and who added it. There were RDS in existence at the time of the competitive tender. Various iterations were then produced by Multiplex during the design and construction stage which were reviewed by the Board through the RDD process. Currie & Brown had no technical involvement in the production of the RDS after the appointment of Multiplex and only had project management involvement in connection with their production, supporting the Board in the management of any programme issues arising from delays in the production of information by Multiplex or reviews of the information by the Board.

166 I have been asked what the final agreed design for isolation rooms was and who approved this. Currie & Brown was not involved in the design, it was Multiplex's design. As I was not involved in the technical design process, I was not aware of what the final agreed design for isolation rooms was and who approved it. For the same reason, I was not part of the decision to place the main extract in the patient's bedroom and not the ensuite as outlined in SHPN 04 Supplement 01.

Horne Optitherm taps

167 I have been asked to describe my involvement, if any, in respect of the decision to use Horne taps. I was not involved in any design or technical decision to use Horne taps in the hospital. I was aware that a meeting was held on 5 June 2014 and chaired by Ian Stewart from HFS to discuss issues with Horne Optitherm taps which had been installed at the hospital. I was aware of this meeting because the discussions were summarised in the notes of EWN Meetings where the decision on taps had a potential impact on the project programme and costs. No-one from Currie & Brown attended that meeting or was asked to attend.

168 I have been asked to detail any concerns, if any, I had in respect of the use of Horne taps and any risk assessments that were carried out in respect of these taps. The selection of taps was not within my remit. Likewise, I am unaware of any risk assessments carried out in respect of the use of the Horne taps. As risk assessments would consider clinical or technical issues, I would not expect to have been aware of any risk assessment which was carried out.

169 I have been asked who was involved in and who signed off the decision to use Horne taps. I understand that the minutes of the meeting on 5 June 2014 recorded who was involved in the sign-off process. Currie & Brown did not attend that meeting and was not involved in that process. The issue was closed off in the minutes of the EWN Meeting following the meeting on 5 June 2014. Through the minutes of the EWN meeting and the EWN process, I had a general awareness of the discussions that were being had with the relevant technical people, but I was not privy to those discussions.

170 I have been asked whether I attended the meeting regarding the use of Horne taps in 2014. If this question relates to the meeting held on 5 June 2014, Currie & Brown was not invited to and did not attend this meeting. Even if Currie & Brown had been invited to attend, we could not have contributed to any decision regarding use of the taps from a technical perspective as we were not technical experts on the subject matter. We were not requested by the Board to engage our technical team to support.

171 I have been asked whether the use of Horne Taps depends on thermal disinfection. I cannot comment on this as I was not involved in the technical discussions, and this is not an area within my knowledge.

Water system

172 I have been asked whether I was aware that the water system was filled prior to handover on 26 January 2015. If I was aware of this, I have been asked who filled the system, why was it filled and what concerns, if any, did I have in this respect. Issues relating to water testing and commissioning are outside of my technical knowledge. I had no involvement in the filling of the water system but had a general awareness that the system was filled as part of the process to prepare the building for handover. I do not know when it was filled. Responsibility for overseeing the process for testing sat with Multiplex and Capita. I recall that the issue of testing may have come up in the EWN Meetings as some of the tests had failed and there therefore had to be a process of re- testing. I had no technical input into this process.

Commissioning and Validation

173 I have been asked to describe Currie & Brown's responsibilities and involvement, if any, in respect of commissioning activities in relation to the ventilation system and water system. Currie & Brown was not involved in the technical commissioning of the hospital carried out by Multiplex prior to handover. Currie & Brown was not therefore involved in the commissioning or validation of the water system or the ventilation systems in the hospital. Currie & Brown had no supervisory or oversight role in that commissioning or validation – that was the responsibility of Capita.

174 I have been asked what advice and support Currie & Brown provided to the Board in discharging its Project Manager functions in relation to commissioning. Currie & Brown was only ever called upon to provide limited advice and support to the Board in discharging its NEC Project Manager functions in connection with the planning of the c linical commissioning. Clinical commissioning is the commissioning of certain items of clinical equipment which takes place after completion of the technical commissioning of the new hospitals by the main contractor (Multiplex). Clinical equipment included, e.g., MRI scanners and imaging equipment which was procured by the Board under separate agreements outside the Main Contract. The support that Currie & Brown provided to the Board (through Paul Fairie and David Hall) was in connection with planning the procurement, installation, and commissioning of these pieces of clinical equipment after the technical commissioning and handover of the new hospitals by Multiplex

175 Currie & Brown also supplied the services of a planner to compile the clinical commissioning / migration programme (amongst other things) post-handover of the hospital from Multiplex to the Board but this merely involved collating task information provided by the Board and updating the programme based on the reporting of activity completion by others.

176 I have been asked to describe what concerns, if any, I had regarding commissioning of the ventilation system and water system prior to handover of the hospital and what action, if any, I took to escalate any concerns I held. As I have explained above, I was not involved in the commissioning of the ventilation and water systems.

177 I have been asked who was responsible for ensuring that commissioning of the water and ventilation system of the hospital was completed and who signed off that it had been completed. Multiplex was responsible for commissioning in accordance with the SHTMs / ERs. Capita in its role as NEC supervisor was responsible for checking that commissioning of the water and ventilation systems was carried out in compliance with the SHTMs / ERs.

178 I have been asked a number of questions about the Board's decision to forgo the requirement to have an independent commissioning engineer. Multiplex had overall responsibility for commissioning under the Contract. Currie & Brown was not involved in commissioning and so this is not an area within my own knowledge.

179 Through my general awareness of the Project, I was aware that Multiplex engaged Mercury Engineering as its MEP contractor for installation and commissioning and that Mercury Engineering employed an independent commissioning engineer, H&V Commissioning, to undertake the commissioning.

180 I was also aware that Multiplex had several people with MEP experience in its team (such as David Wilson and Colin Grindley) to lead on management of MEP issues and have oversight of Mercury Engineering activities.

181 I have been asked whether the energy centre was commissioned prior to the Board taking occupation of the hospital and to describe what I know about the commissioning of the energy centre. Currie & Brown was not involved in commissioning, and I do not recall being aware of any issues with the energy centre at handover. I recall issues with the energy centre immediately after handover as the Board engaged its third-party assurance inspections through Zurich and certain components were then found not to be compliant with the ERs. There were various discussions between the Board and Multiplex to work towards resolving the issues. I was aware of that through EWN discussions and separate communication from the Board. I aided the Board to help resolve matters from a contractual perspective, not a technical perspective, i.e. what remedies the Board had to force Multiplex to get the system up and running correctly. I recall that in addition to non-compliance of certain components the combined heat and power plant wasn't functioning correctly.

182 I have been asked what the outcome of my involvement as described in the above paragraph was. The outcome of my involvement was to draft a letter for the Board to send to Multiplex setting out that the ongoing issues were considered a latent defect as I explain at paragraph 185 below. I am not aware whether this letter was sent by the Board, or (if it was sent) whether Multiplex responded.

183 I also recall that sometime later I received a request from Mary Ann Kane for contractual advice post-handover on what remedies may be available to the Board to compel Multiplex to fix alleged issues as the energy centre was still not performing in accordance with the required brief / design.

184 I have been asked to describe my involvement, if any, in the decision for the energy centre to be retained by Multiplex following handover. I have also been asked what the rationale was for Multiplex retaining the energy centre and when it was handed over to the Board, as well as to describe my knowledge and understanding, if any, of a payment being made by the Board to Multiplex in respect of the energy centre following same being handed over. I am not aware that the energy centre was not handed over. My recollection is that issues with the energy centre only emerged post-handover. In my commercial role on the Project and leading on payment assessments I am not aware of any specific payment being made by the Board to Multiplex in respect of the energy centre following handover. All payments to Multiplex were in accordance with the contract mechanism.

185 My understanding from my involvement at that time initially after handover was that the issue with the energy centre was causing the hospital to use more energy than planned / estimated. An agreement was reached that Multiplex would reimburse the Board for a level of the additional energy costs incurred, however that reimbursement was offset against money that the Board owed Multiplex for delaying them on the Institute of Neuroscience entrance extension works. I recall being at meetings post-handover where issues with the energy centre were discussed and drafting a letter for the Board in 2018 concerning the energy centre issue being a latent defect. I do not know whether that letter was ever sent.

Handover

186 I have been asked who did the final inspections of the hospital before handover in January 2015 and whether the hospitals were ready to be handed over at that point. As NEC Supervisor, Capita was responsible for the formal review of the hospital, including compliance with the ERs, raising defect notifications during construction, confirming completion and listing defects noted at completion. Currie & Brown was not involved in this.

187 I have been asked whether I considered it appropriate for the handover of the hospital to take place when the energy centre was not operational due to design issues which would take almost a year to resolve and bring the energy centre online. As explained above, Currie & Brown was not involved in handover, and I was not aware of any issues with the energy centre at the point of handover.

188 I have been referred to the Sectional Completion Certificate (**Inquiry Bundle 12, Document No.3, Page 23).** I have been asked whether this certificate listed all known defects at the point of handover and if so, why was the energy centre not included in the list of defects. Neither Currie & Brown nor I was involved in the handover process or the preparation of this certificate. This was a matter for Capita. However, from looking at these documents now I note that the energy centre is not listed on the list of incomplete works referred to in the Certificate. The version of the Sectional Completion Certificate that I have been provided with appears to be incomplete as it is missing the record of defects list. I am therefore unable to comment.

189 I have been asked whether there is anything else missing. I assume this question relates to my comments in the above paragraph regarding the copy of the Sectional Completion Certificate I have been provided with. The documents listed at section B on the second page of the Sectional Completion Certificate on page 2 (**Inquiry Bundle 12, Document No.3, Page 24)** appear to be missing. I am only comparing the version provided by the Inquiry against what it states should have been included.

190 I have been asked a number of questions regarding the absence of any validation of the ventilation system prior to handover. As validation was not within Currie & Brown's remit and was the Board's responsibility, I had no knowledge of this and only became aware that no validation was carried out in respect of the ventilation system prior to handover when reading documents for the purpose of the Inquiry.

191 I have been asked who was responsible for asset tagging and why the decision to hand over the hospital without asset tagging having been completed was made. Multiplex was responsible for asset tagging in accordance with the ERs. If asset tagging had not been completed, this should have been listed in the list of outstanding works or as a defect. I do recall the issue of asset tagging coming up post-handover through an EWN discussion and as far as I can recall Multiplex completed the asset tagging as I recall that the EWN was later closed.

192 I have been asked about Currie & Brown's involvement in any other works carried out following handover and have been asked to describe the nature of these works, specifically whether they were remedial or new works. Currie & Brown was involved in assessing the costs of numerous additional works instructed by the Project Manager post-completion. My records list 146 post- handover Compensation Events which were issued from February 2015 onwards relating to the main hospital building

193 Rectification of defect works was managed by the Board. Replacement of the external cladding was major works carried out post-handover as the Board reassessed the risks following the Grenfell fire. Currie & Brown was involved in those works supporting the Board with the contractual position and assessing the cost. Any additional works would have been instructed by the Board as NEC Project Manager.

Currie & Brown BMT Feasibility Study

194 I have been asked a number of questions relating to a feasibility study which the Board commissioned Currie & Brown to undertake in November 2016 to investigate a new location for the BMT Unit within the hospital. I have been asked why the feasibility study was required, who the report was prepared for, whom the report was shared with and what concerns, if any, I held regarding the BMT Unit and what actions, if any, I took. I recall the Feasibility study but cannot recall why Currie & Brown was asked to complete the study. Currie & Brown was appointed by David Loudon to undertake the study on the BMT Unit on 15 September 2016. I cannot recall if David had any concerns regarding the BMT Unit. My involvement in the Feasibility Study was to lead the production of the study and I was responsible for coordinating the activities of our team of technical consultants to prepare the study. The report was prepared for the Board and was shared with David Loudon, as he had commissioned the report.

195 I have been asked to provide the Inquiry with a copy of the Feasibility Study described in the above paragraph. I confirm that I have provided a copy to the Inquiry. The version of the Feasibility Study which is located at **Bundle 23, document 25, page 23** appears to be an earlier draft of the report as it does not include the estimated costs or make reference to the St Mungo's building.

Statement of Truth

I believe that the facts stated in this witness statement are true. I understand that proceedings for contempt of court may be brought against anyone who makes, or causes to be made, a false statement in a document verified by a statement of truth without an honest belief in its truth.

Signed:  Print name: DOUGLAS ROSS

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

Appendix A

A47069198 - Scottish Hospitals Inquiry - Hearing Commencing 19 August 2024 - Bundle 12 - Estates Communications (External Version)
A47851278 - Scottish Hospitals Inquiry - Hearing Commencing 19 August 2024 - Bundle 16 - Ventilation PPP (External Version)
A49342285 - Scottish Hospitals Inquiry - Hearing Commencing 19 August 2024 - Bundle 17 - Procurement History and Building Contract PPP (External Version)
A48245730 - Scottish Hospitals Inquiry - Hearing Commencing 19 August 2024 - Bundle 18 - Documents referred to in the expert report of Dr J.T. Walker – Volume 2 (of 2) - External Version
A48974691 - Scottish Hospitals Inquiry - Hearing Commencing 19 August 2024 - Bundle 22 - Volume 1 - Core Participant Responses to PPPs (External Version)
A49618520 - Scottish Hospitals Inquiry - Hearing Commencing 19 August 2024 - Bundle 23 - Queen Elizabeth University Hospital and Royal Hospital for Children, Isolation Rooms PPP (External Version)
A51785179 - Scottish Hospitals Inquiry - Hearing Commencing 13 May 2025 - Bundle 34 - Performance Review Group and Quality and Performance Committee Minutes and Relevant Papers (External Version)
A52491934 - Scottish Hospitals Inquiry - Hearing Commencing 13 May 2025 - Bundle 43 - Volume 2 - Procurement, Contract, Design and Construction, Miscellaneous Documents (External Version)

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

Appendix B

N/A

Appendix C

EXHIBIT SHEET

This is exhibit **DR1** referred to in the witness statement of Douglas Ross

Douglas Ross Employment:

Currie & Brown UK Limited

July 1991 – 1993 – Graduate Quantity Surveyor

1993 – 2008 – Professional, Senior Professional, Associate, Associate Director, Director

2016 to Present – Senior Director

I am a Chartered Quantity Surveyor with 33 years' experience supporting clients with the commercial management of a wide range of public and private sector projects.

I am an expert in healthcare project cost management having worked on a range of healthcare projects since commencing employment with Currie & Brown. This includes refurbishments, primary care new builds and major new build acute hospitals.

I have over 20 years' experience of target cost contacts supporting clients deliver works under bespoke contact conditions and the NEC suite of contracts.

I specialise in the development and implementation of procurement strategies that manage client risk and deliver successful value-for-money projects.

Projects completed:

- Monklands Hospital Replacement Project, NHS Lanarkshire
- Queen Elizabeth University Hospital, NHs Greater Glasgow & Clyde (NHS GGC)
- Gilmorehill Campus Expansion Project, University of Glasgow
- Baird Family Hospital & ANCHOR Centre, NHS Grampian
- Teaching and Learning Centre, University of Glasgow/NHS GGC
- Ross Hall Hospital, BMI Healthcare
- New oU'ice facility, Queen Elizabeth University Hospital, NHS GGC
- Imaging Centre of Excellence, University of Glasgow/NHS GGC
- Amulatory Care Centres, NHS GGC
- University Hospital of North Tees, North Tees & Hartlepool Foundation Trust
- Higher Education Framework, University of Glasgow
- Local Authority Framework, North Lanarkshire Council, South Ayrshire Council, North Ayrshire Council
- PPP Schools Programme, InspirED
- Defence Works Programme, Amec Turner
- OU'ice Rationalisation Programme, confidential client
- Property Framework, BT PLC
- OU'ice Rationalisation Programme, Access/Glasgow City Council

Education:

1991 – BSc Quantity Surveying, Glasgow Polytechnic (now Glasgow Caledonian University)

Professional Memberships:

1993 – Member of Royal Institute of Chartered Surveyors

Scottish Hospitals Inquiry

Witness Statement of

John Bushfield

Personal Details and Professional Background

1. My full name is John Bushfield. My address for the purposes of this Inquiry is c/o BTO Solicitors LLP, One Edinburgh Quay, 133 Fountainbridge, Edinburgh, EH3 9QG.

2. I am providing this statement in response to a questionnaire from the Inquiry in relation to the Glasgow IV Inquiry hearings on the design, construction and commissioning process in respect of the Queen Elizabeth University Hospital (hereinafter referred to as "QEUH") and Royal Hospital for Children (hereinafter referred to as the "RHC") construction projects.

3. I have endeavoured to provide as much information as possible in respect of the questions I have been asked to answer within this statement. Where I am unable to provide my own input, I have done my best to identify others who are likely to be in a better position to assist this Inquiry.

4. In respect of my professional experience and qualifications, I worked through an electrical apprenticeship and obtained an Electrical Engineering ONC in 1978, an Electrical Engineering HNC in 1980 and subsequently received a BA from the Open University in 1993. I was an Incorporated Engineer (I Eng) via the Engineering Council through CIBSE.

5. I am now retired, however I previously worked at various levels in the electrical design department of Wallace Whittle/TUV SUD between October 1981 and December 2017. I worked on the QEUH/RHC project in 2009 and

2010, and at that time my job title was Electrical Associate/Director. I was the Client Adviser Team Lead on electrical engineering for the project.

6. Over the years I have worked as an electrical designer on various healthcare projects, in both Technical Advisor and Design Team member roles. This included working on projects at Glasgow Royal Infirmary (including Maternity and ERPB new-builds and various refurbishment projects) Monklands Hospital refurbishment projects, Crosshouse New Maternity Hospital, Edinburgh RHCYP/DCN, Aberdeen Royal Infirmary new and refurbishment projects and Orkney New Hospital.

Involvement at QEUH/RHC

7. In relation to my role on the QEUH/RCH project, my role was restricted to advising on the electrical engineering aspects of the project. I led the electrical team at Wallace Whittle as a member of the Currie and Brown multi-disciplinary group. My recollection is that Wallace Whittle (hereinafter referred to as “WW”) were part of the Currie and Brown team (hereinafter referred to as “C&B”) when they were appointed in 2009.

8. I worked for WW as part of the C&B team, and my role was to provide and collate engineering input from the electrical team at WW. My recollection is that we took a pack prepared during the previous procurement process and supplemented this with electrical specifications. We also provided electrical input in the preparation of the multi-disciplinary room data sheets.

9. I attended briefing meetings with various members of NHS staff and participated in cooperative dialogue meetings with the electrical members of the bidder’s teams during my involvement in the project. I took part in the review of bid documents and provided feedback on the electrical proposals from each of the teams. My recollection is that WW was stood down once a preferred bidder was appointed in 2010.

Employer's Requirements

10. In terms of my involvement in preparing the Employer's Requirements **(Bundle 16, Document 13, Page 1357)** (hereinafter referred to as "ERs"), I was involved in the electrical items only. I believe the Clinical Output Specifications were compiled by NHS and possibly updated with other members of the team.

11. NHS provided lists of various standards and guides to be used as part of the previous procurement documentation. These were reviewed at meetings and agreed by NHS. I recall these included new "draft" guidance documents which I think may have been provided by HFS.

12. I recall that there was an absolute requirement for a BREEAM Excellent score and a compulsory energy target for the project. This covered several categories and we included a requirement for suitable efficacy of electrical plant items and lighting sources in the ERs.

13. I have been asked by this Inquiry to comment on ventilation aspects of the project. My specialty is in electrical engineering and I had no involvement in relation to matters concerning non-electrical items within the project.

14. Specifically, and in so far as various questions have been asked of me, I had no involvement in the removal of the maximum temperature variant or decision to use chilled beams, nor the provision of the specification for environmental data relating to air change rates, pressure differentials or filter requirements.

15. I cannot recall who on the project was responsible for HAI-SCRIBE assessment in respect of the proposed site development, design and planning and new construction of the hospital.

Currie and Brown, Contractors, NHS GGC Project Team

16. I had a good professional relationship with C&B, whom I had worked with on previous projects over the years. That included having been a part of their Technical Advisory team at Crosshouse Maternity in Ayrshire. On the QEUH project we reported to Douglas Ross and Mark Baird at C&B. I attended meetings with C&B and led on the electrical elements of the project for WW.

17. I understand that C&B were appointed after a commercial bid arrangement was issued to various multi-disciplinary teams.

18. In terms of the other contractors on the project, I had a professional relationship with each of the bidders, including the MPX team. I do not believe that I had any dealings with Capita, who may have been appointed after my involvement.

19. I had worked on various projects over the years with NHS GGC, which included electrical work at Glasgow Royal Infirmary (hereinafter referred to as the “GRI”) and the Southern General Hospital. I cannot recall the various members, but I do recall having met Mr Ian Powrie when he was an estates manager at GRI. He was helpful and introduced his electrical staff who dealt with the project works.

20. During the project, I took part in multi-disciplinary discussions with various NHS staff including Alan Seabourne and Peter Moir, together with their estates and clinical colleagues. We had a professional positive working relationship. The meetings were well run and often comprised an introduction on the topic with all members present before breaking out into sub-group meetings with a catch up at the end. During these meetings I represented the electrical services at sub-groups and Stewart McKechnie represented Mechanical services.

21. On a day-to-day basis I reported to Stewart McKechnie who was mechanical services lead and project lead for WW.

Ventilation Derogation

22. As above, and as an electrical engineer, I had no involvement in the ventilation design on the project and cannot therefore offer any comment on the ventilation design strategy generally, the ZBP Ventilation Strategy Paper **(Bundle 16, Document 21, Page 1657)**, nor in respect of any derogation from SHTM 03-01 or any other guidance. I would imagine that Stewart McKechnie from TUV SUD, Steve Pardy at ZBP or those at NHS GGC or MPX may be better placed to answer these questions.

23. Notwithstanding my lack of expertise or knowledge regarding the ventilation design on the project, I have been asked about comments purportedly made by myself within the document titled 20091204designsummary-mechanicalandelectrical-brookfield response 0712091 **(Bundle 43, Volume 2, Document 21, Page 308)**, which is yet to be bundled by the Inquiry. I have specifically been asked about my comment which states '*This derogation to the SHTM is not accepted. Any variation would require Board clinical infection control.*'

24. In this document several text entries appear to have been attributed to or made by me. I note however that in Column 6 of the table these are headed "*Brookfield (MPX) comments*". I represented NHS via C&B not Brookfield (MPX). I do not recall why or how the changes were made under my name, but the likelihood was that WW were requested to tabulate comments received from all parties within the C&B document, and that is why the changes appear to have come from me. Any changes made would therefore have been purely administrative in this Column, and reflective of whatever input MPX had provided.

25. Text entries attributed to me in Column 7 include mechanical and electrical items. I would have compiled the electrical items in conjunction with NHS and the electrical team. The mechanical items would have been provided to me for inclusion via the mechanical team at WW, and I would simply have

incorporated these into the document on their behalf. I would suggest that Mr McKechnie would accordingly be better placed to assist with clarifying any of these changes in so far as they relate to the ventilation aspects.

26. Having had no input in the ventilation design of the systems, I am unaware of whether any infection control review was ever undertaken by any party in respect of the proposed design, nor do I know how the Board came to be satisfied that the proposed derogation ought to be accepted.

27. I had no concerns regarding the derogation in the sense that I was not involved in this process and would not have had the expertise to comment on any concerns in any event, my expertise lying in electrical engineering.

28. I have further been asked about an email exchange between Stewart McKechnie and Mark Baird, Currie and Brown dated 15 December 2009. **(Bundle 17, Document No.21, Page 2863)** The document is noted to appear in Bundle 16, but I presume that this reference should be to Bundle 17.

29. Unfortunately, I cannot comment on this exchange, any review, risk assessments or any issues regarding compliance with SHTM 03-01, in view of the fact that I had no involvement in the ventilation design aspects of the project. I never discussed this exchange or any review with Mr McKechnie. As above, these matters were out with my expertise and I did not have any input in matters concerning non-electrical items within the project.

30. I do not therefore have any knowledge as to whether or not WW took the Board through proposed statements on the M&E Log **(Bundle 16, Document 23, Page 1662)** regarding air changes, for the reasons noted above in respect of the remit of my role on the project and expertise. I am also unable to comment on any discussions or advice in that regard, having had no involvement in the ventilation aspects of the project.

31. Further, I do not have the expertise or knowledge to comment on the function of ventilation or on my interpretation of SHTM 03-01. Again, I would imagine

that Mr McKechnie, Mr Pardy or those at NHS GCC or MPX would be in a better position to answer these queries.

Additional Information

32. I am not aware of any matters not covered herein which might be of assistance to the Inquiry, but I would be more than happy to assist should any further queries arise which I could usefully comment on.

Declaration

33. 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 will be published on the Inquiry's website.

The witness was provided access to the following Scottish Hospital Inquiry bundles/documents for reference when they completed their questionnaire/ statement.

Appendix A

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

A49342285 - Bundle 17 – Procurement History and Building Contract PPP

A47851278 - Bundle 16 – Ventilation PPP

A52491934 - Bundle 43 Volume 2 - Procurement, Contract, Design & Construction, Miscellaneous Documents

Scottish Hospitals Inquiry

Witness Statement of

Alex McIntyre

This statement was produced by the process of sending the witness a questionnaire with an introduction followed by a series of questions and spaces for answers. The introduction, questions and answers are produced within the statement.

Personal Details and Professional Background

1. Name, qualifications, chronological professional history, specialism etc – please provide an up-to-date CV to assist with answering this question. Please include professional background and role within NHS GGC, including dates occupied, responsibilities and persons worked with/ reporting lines.

A. Alex McIntyre, Institute of Health Service Management, HNC Business Studies. Joined the NHS in 1973 as a Management Trainee and worked for 40 years in a range of administrative and operational management positions until retirement in 2013. I retired in 2013 and as such have no up to date CV. I worked in a number of roles in GG and Argyll and Clyde Health Board. In ACHB in 1970s to early 1980's I was Deputy Hospital Administrator at Greenock Royal Infirmary, General Admin Officer at Inverclyde Royal Hospital and finally Principal Admin Assistant at the Inverclyde Divisional HQ. These posts covered daily hospital administration, Legal Claims and secretarial support to the District Management Team. Joined GGHB as Principal Admin Assistant to Sector Administrator in South Glasgow carrying out secretarial support to committees e.g. Ethics Committee, District Medical Committee and complaints management. Reporting to the Sector Administrator. Transferred to the South Unit on restructuring reporting to the General Manager. Moved internally to the role of Facilities Manager responsible for site management of Support Services i.e. Catering, Domestic, Porting, Transport, Telecommunications, Production laundry and linen services, General stores.

In the South Glasgow Trust I took up the role of Facilities Director that in addition to Support Services added Estates Management. Finally on the merger of GG and ACHB I was appointed to the role of Director of Facilities with Board Wide Responsibilities reporting to the Acute Division Chief Operating Officer on a day-to-day basis and to the Chief Executive for Board wide responsibilities. Later inherited HB Capital Works teams and programmes that required the development of the Board Capital Plan within an annual allocation. In the context of capital works I was in the PFI procurement and commissioned the Elderly Care Unit at SGH and was seconded full time to lead the project team in the procurement, contracting and commissioning of the 2 Ambulatory Care Hospital in Glasgow. In terms of conventional new build I was project lead for The National Spinal Injuries Unit for Scotland. West of Scotland Mobility and Rehabilitation Centre and School of Podiatry. I also managed major estates upgrades and capital works projects.

a) Who was responsible for the Project Team during the design and build of the QEUH/RHC?

A. Alan Seabourne was the Project Director until his retirement in 2012. Thereafter David Loudon was Project Director for the final stages of the construction and the sign off and commissioning of the building

Procurement

2. Describe the funding PFI changes, your involvement, why the changes were made, who signed off on the changes and what the escalation process was in respect of the Board authorising these changes.

A. I was not directly involved in the change from PFI to conventional procurement for the new south Glasgow hospitals. I vaguely remember that this decision was prompted by the Scottish Government Health Department on a change of Political administration and instructed to the HB. I would assume the decision was reflected in the minutes of the HB at that time.

3. Were the risks and the resource implications of changing the procurement model from PFI to traditional (design and build) adequately assessed, in particular: the impact on commissioning, independent validation and resourcing post-handover.

A. Traditional D&B projects were a normal and well tested route for procurement and delivery of capital works and as such the implications for the delivery of these projects were well known. Each project was resourced consistent with the size and complexity of the task on a scheme-by-scheme basis. In terms of QEUH the Project Team was assembled on a multidisciplinary basis of internal speciality leads and external technical advisors and the Project Director would need to comment on its adequacy. In terms of post-handover resources I retired in 2013 and as such have no knowledge of resources applied at this stage.

4. Describe the Gateway Review process and your involvement in it, if any,

A. I do not recall having been involved in the Gateway Review process. A description of the process would be better addressed to the Project Director.

Design and Construction and Role in the QEUH/RHC Project

5. When did you first become involved in the design of QEUH/RHC. Please describe your role and responsibilities.

A. I was involved in the development of the ERs as part of the multidisciplinary team that prepared the documentation. Thereafter the design of the QEUH was managed through the Project Team. I contributed to discussions and decision making thereafter on a required/requested basis. I had no day-to-day input to the design.

6. The Inquiry understands that you were the Director of Facilities from around 2006. Describe in detail this role.

A. As Director of Facilities with Board-Wide Responsibilities I was accountable to the Chief Executive for Board-Wide responsibilities and to the C.O.O for the Acute Division responsibilities. My role was to lead, manage and control the

Directorate, ensuring delivery of high quality, effective and economic support services across Glasgow and Clyde to contribute to the overall delivery of services. As a member of the Divisional Management Team to contribute to the corporate management of the Division, and the achievement of national priorities and key service imperatives to secure improved services to patients. To manage on a Board wide basis the development and delivery of the Board Capital Plan and Property Asset Strategy. The role of the Directorate was to provide a comprehensive range of soft and hard facilities management services, capital project management and property services to all aspects of the Board services. On a Board wide- basis the following services were provided and managed

Site maintenance for acute, mental health partnership and CHP facilities

Strategic Estates management

Hotel Services (catering, domestic, portering)

Laundry production and linen distribution services

TSSU/Decontamination and regional CSSD

Supplies logistics and procurement

Transport

Catering Production units

Telecommunications

Waste management

Energy Strategy and Management

Sustainability management and strategy

Capital Plan programme and delivery

Board Property Strategy

Asset Management Strategy

Strategic and operational direction in relation to Fire and security arrangements of all premises

To deliver this agenda I had a number of General Managers, Estates Managers and Functional Heads reporting to me. Each of the General Managers and Estates Managers in addition to their specific areas had a special interest topic which they led on behalf of the Directorate.

7. Please describe how the technical requirements (air change rates, pressure differentials and filter requirements) for the rooms were managed and approved, including your role and involvement

A. Technical requirements form part of the Employers Requirements and are based on NHS Guidance in the form of Health Technical Memoranda and Health Technical Notes and these are subject to review by the Project Team and their technical Advisors. Given the time lag between then and now I am unable to make any specific comment on this matter other than to vaguely recall that the ERs were discussed in multidisciplinary meetings convened by the Project Team and which I attended.

a) What role, if any, did Infection Prevention and Control (IPC) have at these meetings? Do you recall who specifically from IPC was involved? If IPC were not involved, why not, and with the benefit of hindsight should they not have been?

A. I cannot recall all the participants by name, discipline or role in these sessions.

8. What guidance was considered in the design of wards to accommodate immunosuppressed patients, what processes were in place to ensure guidance compliance? Were there any changes to the design during the design and build, if so, please describe any such changes, describe the impact, if any, on guidance compliance, and described the sign off process for any such changes, your involvement and how any changes were communicated to the Board. Was external advance ever sought in respect of design changes?

A. See previous response. To answer this question accurately it needs to be addressed to the Project Team. I was not involved on a day -to- day basis.

9. Who was responsible for confirming filtration and HEPA requirements and who approved this from the GGC Project Team?

A. To answer this question accurately it needs to be addressed to the Project team.

10. In respect of any derogations/departures from guidance which senior IPC individual was responsible for signing this off?

A. To answer this question accurately it needs to be addressed to the Project Team. I am unable to recall this level of detail.

11. Describe your involvement and understanding, if any, of the decision to remove carbon filers? What was the rationale behind this decision, who was involved and what advice, if any, was sought in reaching this decision?

A. To answer this question accurately it needs to be addressed to the Project team. I do not recall being directly involved in this.

12. What measures did you take to ensure continuity of knowledge from the build phase into the hospital becoming operational? How did those measures work in practice?

A. To provide continuity from the build phase to day-to-day operations of the new hospital I arranged for the full-time secondment of Ian Powrie, Estates Manager Glasgow Royal Infirmary, from an estates perspective and Karen Connelly, Hospital Manager Victoria Infirmary/SGH, from a support services perspective to be embedded within the Project Team in agreement with the Project Director. The intention was that on completion of the project the individuals would be responsible for site management issues with a clear understanding of how the building engineering and support services were developed and installed and their ongoing maintenance and operational needs,

a) What qualifications/ experience did Ian Powrie and Karen Connelly have to ensure that there was adequate transfer of knowledge in respect of the building engineering and support services?

A. You would have to ask these individuals directly for their qualifications. Both Ian and Karen were highly motivated and vastly experienced individuals in their respective areas of expertise. Both also had a sound knowledge and experience in the development, management and commissioning of capital works of varying size and complexity.

b) What ongoing maintenance and operational plans were in place at handover?

A. As previously stated I retired in 2013 and have no knowledge of arrangements at handover.

c) The Inquiry has heard evidence from estates staff in the last set of hearings relating to the Glasgow hospital, that there were issues with ongoing maintenance once the QEUH was operational. Further that there was issues getting Planned Preventative Maintenance in place. What awareness, if any, did you have of these issues?

A. No comment, retired 2013.

d) What action did you take, if any, to ensure that ongoing maintenance was functioning and relied on appropriate knowledge transfer? Did you ever discuss this matter with Estates staff, if so whom and when?

A. No comment, retired 2013.

Tender and Appointment of Main Contractor

13. Describe your involvement, if any, in respect of the selection process whereby Multiplex were selected as the preferred bidder.

A. I recall in vague terms given the time lapse having attended the preferred bidder process as part of the multi-disciplinary review that was undertaken to consider the designs proposed by the shortlisted bidders Balfour Beatty, Laing O'Rourke and Brookfield (Multiplex). The evaluation process took the form of

a number of specific presentations by the bidders and more general presentations on evolving design of the buildings relative to the site and existing buildings that would be retained. These presentations took place over a number of days.

a) Why were Multiplex awarded the contract following the competitive dialogue process? What distinguished Multiplex from the other bidders to make them the preferred bidder? Include details of the tender process and explain how Multiplex engaged and became distinguished as the preferred bidder.

A. Given the time lapse I am unable to comment on the specifics of the tender process or the specifics of Multiplex engagement and this should be addressed to the Project Team. My recollection of the evaluation process is that the design proposed by Multiplex was significantly more completed than their competitors. In particular the Multiplex design clearly identified how the new buildings would be physically linked to the existing buildings on site that would be retained. The Multiplex team clearly demonstrated their vision for the building and association of dependent departments within the building. Thus exceeded the alternative bids by some distance. Other aspects of the bid including finance were addressed by others.

b) What role, if any, did achieving BREEAM excellence play in awarding the contract to Multiplex? Did the design submitted by Multiplex go further towards achieving energy efficiency targets that the other designs?

A. This question should be addressed to the project team. I have no specific recollection of the detail on this matter.

c) If so, was achieving energy efficiency targets such as BREEAM a priority in the design of the hospital?

A. In general terms, achieving energy efficiency targets would form part of the design considerations of any major capital project of this nature. Comment specifically relating to this project should be addressed to the project team.

d) Describe the scoring for value for money within the tender process, including your role, if any. How did Multiplex score relative to other bidders?

A. I have no recollection of the specifics of the scoring for value for money within the tender process or the Multiplex score relative to the other bidders. This should be addressed to the Project Team.

Employer's Requirements

14. Describe your involvement, if any, in the preparation of the Employer's Requirements (ERs).

A. I vaguely recall a series of multi-disciplinary sessions involving Health Board technical, support services and finance staff and the projects external technical advisors to address ERs. These sessions took place over a number of days. Given the time lapse I am unable to recall or comment on the specifics of these sessions or the attendees.

a) Who was responsible for confirming what the relevant NHS Guidance was for the project?

A. The sign off of the ERs in their final form, after the muti-disciplinary input, as I recall, lay with the Project Team.

b) How did sustainability and energy targets impact on the design?

A. I am unable to recall any specific mattes in relation to this and the question should be addressed to the Project Team and their external advisors who I believe negotiated this with the Scottish Govt Health Dept.

15. The inquiry understands that the Maximum Temperature Variant was modified during the procurement process **(please refer to Bundle 17, Document No.26, Page 1063)**. Documents the inquiry have reviewed suggest this request was made by Facilities **(please refer to Bundle 12, Document No. 104, Page 81)**. Was this decision made by yourself, as Director of Facilities? Why was this decision taken? What risk assessments, if any, were taken prior to making this decision? What was the impact in removing the maximum temperature variant on the ability to achieve 6ACH per hour?

A. The request to modify the maximum temperature would indeed be authorised by me in my role as Director of Facilities. I have no specific recollection given the time lapse of the reasoning behind this request. I have a vague recollection that it may have been linked to uncomfortable working conditions in the Ambulatory Care Hospitals in the summer months but cannot be more specific than that. The Project Team would need to comment on the specific impact on air changes

a) What involvement, if any, did Infection Prevention and Control (IPC) have in this decision? Do you recall seeking IPC advance prior to authorising this?

A. See previous response confirming that I have no specific recollections on this matter. From a general observation perspective I do not see why you consider a temperature issue to be a matter for Infection Control at all.

b) Describe your knowledge and understanding, if any, in respect of the role of value engineer in the design and build of QEUH/RHC. What was the impact, if any, of value engineering on the design and build of QEUH/RHC? What role, if any, did this play in decisions made in respect of the ventilation system? Please refer to document **Bundle 43 Volume 1, Document 11, Page 35.**

A. Value Engineering is an integral part of all capital works programmes and as such QEUH would be no different. VE would be carried out by the project team and their advisors. In the event there were issues raised that I could contribute to in my role as Director of Facilities I would have been consulted. I do not recall any specific involvement in respect of the ventilation system other than contained in my earlier response. The project team are best placed to address this question.

16. Describe your involvement in the decision to use chilled beams. Why was the decision taken and by whom? What risk assessments, if any, were taken prior to making this decision? What was the impact, if any, in using chilled beams?

A. I don’t recall being party to the detailed technical discussions that reached a decision to use chilled beams as a means of reaching the required brief. The

details of this would have been a matter for the Project team, their technical advisors and the contractor.

17. Who provided the specification for environmental data relating to air change rates, pressure differentials and filter requirements.

A. This question should be addressed to the Project Team and their Technical Advisors. I did not provide this level of detail.

Ventilation Derogation

18. Explain your understanding of the ventilation design strategy contained in the Contractor's Tender Return Submission (11 September 2009) **Please refer to Bundle 18 Volume 1, Document 8, Page 205.** Was the ventilation system to be a mixed mode ventilation system (dependent on a non-sealed building) or a mechanical ventilation system (dependent on a sealed building)?

A. The contractors tender and evaluation were addressed in detail by the Project Team and they would be in a better position to accurately address this point. The bundle seems to confirm that the ventilation options were addressed by technical advisors and concluded that mechanical ventilation was the only possible conclusion to meet the ERs requirements.

19. Was the design and/or specification of the ventilation system as recorded in the Building Contract, in particular in the M&E Clarification Log **(please refer to Bundle 16, Document No. 23, Page 166)** compliant with NHS Guidance? What role, if any, did BREEAM play in the acceptance of this design?

A. The Project Team would need to confirm this.

a) At the time, what was your understanding, if any, of the mandatory requirement provided for within the Employer's requirements in respect of complying with SHTM/HTM in respect of ventilation?

A. As previously said this level of detail would need to be addressed by the project team.

b) If you are of the view that it was compliant, please explain why, with particular reference to SHTM 03-01 2009 (Ventilation Design). **Please refer to Bundle, 16 Document No. 5, Page 342.**

A. I have no view to offer, refer to the Project Team.

20. The Inquiry is aware of the agreed ventilation derogation recorded in the M&E Clarification Log. **Please refer to Bundle 16, Document No. 23, Page 166.**

a) What was the scope of the agreed ventilation derogation recorded in the M&E Clarification Log?

A. The scope and agreement I would assume were as detailed in the documentation. I do not recall being party to the Clarification Log. The Project team would be able to address this question.

b) When did you first become aware of it and how?

A. I do not recall being party to the Clarification Log. As I recall it from the bundle and vague memory my involvement was to request the reduction in maximum temperature and the technical and contractual implications thereafter were dealt with by the Project Team and their technical advisors.

c) Was the agreed ventilation derogation restricted to general wards only?

A. This question needs to be addressed to the Project Team.

d) If so, how is this interpretation evidenced within the documentation (such as the M&E Clarification Log) and where is the specification located for areas that required specialist ventilation and isolation rooms?

A. See above response

e) Who else from the GGC project Team and Board were aware of the Ventilation derogation?

A. See the above response. I do not recall this level of detail.

f) How was the agreed ventilation derogation signed off by the Board? The Inquiry understands from the response from Currie and Brown to PPP13 that the GGC Project Team had advised you of the Agreed Ventilation Derogation, alongside Helen Byrne (Director of Acute Services Strategy Planning and

Implementation) & Peter Gallagher (Director of Finance). Please confirm your position.

A. If the document trail confirms I was informed in this matter along with others then that will be correct. However, I do not specifically recall this level of detail. The actual sign off on project matters was managed by the Project team and as such they should be in a position to address this question with more accuracy.

g) How would the derogation have been signed off by the Project Team? Who within the Project Team would have signed it off?

A. There seems to be a problem with the enquiries understanding of the role of the project team in delivery of this project. As previously indicate in response to this section the actual sign off on project matters was managed by the project team therefore the details being sought should be addressed to the project team.

h) At the time, do you recall being advised of the ventilation derogation?

A. I have nothing further to add to my original response to this section.

i) When did you first become aware of the ZBP Ventilation Strategy Paper dated on or around 15 December 2009? **Please refer to Bundle 16, Document No.21, Page 1657.**

A. I do not recall having seen or read the ZBP ventilation strategy paper and believe this would have been a matter for the Project Team and their advisors.

j) What action, if any, did you take when you became aware of this document and why? If you did not take any action please explain why not.

A. See previous answer. I do not recall having taken any action in relation to the document. Action in relation to this paper would have lain with the Project Team and their advisors.

k) What concerns if any did you have on reading this document?

A. See previous answer.

21. What risk assessments (if any), whether in compliance with the standards in HAI Scribe or otherwise, did GGC carry out or have carried out in respect of the change in the ventilation strategy that appears to follow the ZBP Ventilation Strategy Paper dated 15 December 2009? **Please refer to Bundle 16, Document No.21, Page 1657.**

A. See previous answer. This would have been a matter for the Project Team.

22. Was the Ventilation Derogation recorded in the Full Business Case? Who was responsible for doing this? If not, why not? If you were aware that it had not been recorded in the Full Business Case please explain what action, if any, you took.

A. The Project team finalised the FBC and this question would need to be addresses to them for an accurate response. Given the time lapse and the fact I did not write the FBC I have no specific recollections of the FBC document.

23. With **reference to Bundle 20, Document No. 5, Page 102,** can you confirm that you approved the Board Ventilation Safety Policy circa 2011?

A. I do not recall having approved this specific policy again given the time lapse. However, it would not have been inconsistent with my role as Director of Facilities to have approved this policy, the input and drafting of which would have been from specialist infection control and estates personnel.

<u>Water</u>

24. The inquiry understands you were involved in the Board Water Safety Group. Please describe your involvement with regards to the water system while you were in post. Did you or the other board members have any concerns? Were the appropriate risk assessments carried out? Was external advice sought regarding any water issues? Which guidance was used, and do you believe the system was compliant with it?

A. I do not recall my involvement with this particular group, one of many I was involved with in my role as Director of Facilities. However again it would not

be inconsistent with my role as Director of Facilities to have been involved. If the reference to water systems is relative to the QEUH etc I have no recollection of any concerns relating to the water system within this building specifically or more generally before I retired in 2013.

25. Please describe your involvement, if any, with the development of any water-related guidance or policies, including water flushing and legionella/pseudomonas. **Please refer to, Bundle 27, Volume 7, Document No.3, Pages 24-25.**

A. I do not recall being involved directly in these policies. Again the development of policies would lie with specifically designated control of infection and estates and facilities staff as appropriate.

a) Do you recall what the letter referred to would have covered, and why you sent it?

A. No

b) Describe any issues/ concerns you had at the time in respect of the water system, confirm what action, if any you took in response to these concerns.

A. I do not recall having any specific concerns re water systems.

Taps

26. Describe your involvement, if any, in respect of the decision to use Horne taps.

A. I was not involved in the decision to use Horne taps. My recollection is this was a matter processed within the project Team and their advisors in discussion with Health Facilities Scotland.

a) What concerns, if any, did you have regarding the use of Horne taps?

A. See above answer

b) What risk assessments were carried out in respect of the use of Horne taps?

A. See above answer

c) Who was involved in, and who signed off the use of Horne taps?

A. See above answer.

d) Is there any further information that you consider of relevancy or interest to the Inquiry?

A. No

Declaration

27. I believe that the facts stated in this witness statement are true. I understand that proceedings for contempt of court may be brought against anyone who makes, or causes to be made, a false statement in a document verified by a statement of truth without an honest belief in its truth.

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

Appendix A

A47069198 – Bundle 12 – Estates Communications

A47851278 – Bundle 16 – Ventilation PPP

A49342285 – Bundle 17 – Procurement History and Building Contract PPP

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

A48946859 – Bundle 20 – Documents referred to in the expert reports by Andrew Poplett and Allan Bennett

A50002331 – Bundle 27 – Miscellaneous Documents – Volume 7

A52449706 – Bundle 43 Volume 1 - Procurement, Contract, Design & Construction, Miscellaneous Documents

Scottish Hospitals Inquiry
Witness Statement of
William Hunter

This statement was produced by the process of sending the witness a questionnaire with an introduction followed by a series of questions and spaces for answers. The introduction, questions and answers are produced within the statement.

Personal Details and Professional Background

1. Name, qualifications, chronological professional history, specialism etc – please provide an up-to-date CV to assist with answering this question. Please include professional background and role within NHS GGC, including dates occupied, responsibilities and persons worked with/ reporting lines?

A. Name: William Hunter: Qualifications: Post Graduate Diploma in Health Care Management, Strathclyde University; NHS Education Scotland Leading for the Future; ROSPA Manual Handling; Instructor & Assessor Certificate; RIPHH Certificate in HACCP Principles; RIPHH Diploma in Food Hygiene; Managing Health Services B782, Open University; REHIS Intermediate Food Hygiene Certificate; Group Training Techniques; The National Examination Board for Supervisory Management (NEBSM Certificate); SCOTVEC Module - Personnel Services; SCOTVEC Module - Supervision and Management; City and Guilds 706/1 706/2 in SCOTVEC Module Equivalents. Professional Membership: Full member of Hospital Caterers Association. Professional History: Deputy Director Facilities & Corporate – NHSGGC; 1st July 2022 – Present. Assistant Director Facilities (South Sector) – NHSGGC; 1st August 2019 – 30th June 2022. (North East / West Sector - 15th January 2018 – 31st July 2019; South & Clyde Sector - 1st October 2012 – 14th January 2018 (Merged because of the Retirement of the Clyde Sector General Manager); South Sector - 1st August 2011 – 30th September 2012; North East Sector - 1st November 2008 – 31st July 2011; West Sector - 1st January 2006 – 31st October 2008). General Manager, Estates & Facilities – NHSGGC Southern General Hospital; 1st June 2000 – 31st December 2005. Deputy Hotel Services Manager – NHSGGC Southern General Hospital; 29th March 1999 –

31st May 2000. Catering Manager - North Lanarkshire Council; 2nd December 1996 – 28th March 1999. Project Development Manager - East and Midlothian NHS Trust, Eastern General Hospital; 1st May 1993 – 1st December 1996. Catering Manager - Scottish Health Service Centre, Management Development Group; 7th October 1991 – 30th April 1993. Trainee Hotel Services Manager - Ayrshire and Arran Health Board, Ailsa Hospital; 19th August 1985 – 6th October 1991. Kitchen Superintendent / Head Chef / Assistant Head Chef / Chef / Trainee Chef. Professional Role: General Manager (Estates & Facilities) This role had responsibility for South and Clyde Sectors (Estates & Facilities), which incorporated QEUH campus (including Royal Hospital for Children), Royal Alexandra Hospital and Inverclyde Royal Hospital. I transferred from North Sector, as General Manager, to South Sector, around August 2011. In October 2012, Clyde Sector was incorporated into my portfolio of responsibility. Line manager - Corporate General Manager, Estates & Facilities. At some point the post holder became Associate Director (Estates & Facilities). **(Please refer to CV at the end of Appendix B).**

2. Describe the role you held at QEUH/RHC, providing details of when you were appointed, the line management structure, including who you reported to, who reported to you. Please also confirm your role in respect of the design and build of QEUH/RHC, describing your role and responsibilities?

A. I held two roles at Queen Elizabeth University Hospital: 1. August 2011 to January 2018 - General Manager, Estates & Facilities: My line manager was Corporate General Manager, this role changed to become Associate Director Estates & Facilities. The previous post holder was Mary Anne Kane (this post no longer exists within the current structure). Direct reports - South Sector, Head of Facilities Management (South) Ronnie Clinton, followed by David Macdonald. Head of Estates, Jim McFadden, followed by Ian Powrie and then Andy Wilson. 2. October 2012 - my role extended to include General Manager Responsibility for both South and Clyde Sector which incorporated Royal Alexandra Hospital and Inverclyde Royal Hospital, Clyde Sector Head of Facilities Manager was Lorna Campbell and Head of Estates was Andy Wilson. In January 2018 I transferred to North Sector until August 2019. From August 2019 until June 2022 I became Assistant Director Facilities

Management for South Sector (QEUH), at this point my role did not have any responsibility for Operational Estates. My line manager is Tom Steele, Director Estates and Facilities. My direct Report was David Macdonald, Head of Facilities Management. 6. Responsibilities - senior management responsibility for the delivery of Estates & Facilities across both Sectors, this included Estates, Domestic Services, Portering, Patient & Retail catering, linen. Operational development and leadership of services in accordance with national and regulatory guidance. I did not have any management responsibility for the design and build of Queen Elizabeth University Hospital and Royal Hospital for Children. There was a dedicated South Glasgow Hospitals Project team which was led by a Project Director, with a range of professional support in place, together with technical advisors. I never participated in this however I did, at times, liaise with several colleagues in relation to building orientation and other operational aspects of service planning mainly from a soft FM/Facilities perspective **(Please refer to Bundle 43, Volume 3, Document No. 32, Page 1435).**

Design and Construction and Role in the QEUH/RHC Project

3. Describe your involvement, if any, working with contractors on the build for QEUH/RHC, including but not limited to Multiplex, Currie and Brown, Capita, IBI/ Nightingales, Mercury, Wallace Whittle/ TUV-SUD/ ZBP.

A. My role as General Manager (Estates & Facilities) did not require any contact or liaison with contractors working on the build of Queen Elizabeth University Hospital/ Royal Hospital for Children. There was a dedicated team of managers and technical professional advisors who had responsibility for this and were employed as part of the South Glasgow Hospitals Project Team.

a) Who was responsible for the Project Team during the design and build of the QEUH/RHC?

A. There were two Project Directors who were simultaneously responsible for the South Glasgow Hospitals Project team. Initially Alan Seabourne was responsible until July 2013, however following his retirement, David Loudoun became his successor and therefore the Project Director from June 2013. The

overlap allowed for a brief handover. This information was confirmed by an NHSGGC employee who provided administration support at the time.

4. Explain how the output for the design of the Wards was confirmed and signed off. In doing so describe the purpose of the clinical output specification, and your involvement, if any.

A. I am not able to confirm the sign off process for the output design of the wards. This was not part of my remit. This role and responsibility sat with South Glasgow Hospitals Project team.

a) With whom in the Project Team did the sign off process for the outline design of the wards?

A. I do not know who, within South Glasgow Hospitals Project team had responsibility for the sign off process for the outline design of the wards. I am aware that the Project Team membership had separate leads for QEUH and RHC with nurse advisor and Infection Control leads in place. While I cannot confirm who, or what group, had final approval, I would suggest that the Project Director had ultimate responsibility.

5. Explain the purpose of the guidance relied upon by the design team and why this was important.

A. I was not involved in the design guidance principles or its translation into the physical design and build of Queen Elizabeth University Hospital/Royal Hospital for Children. This role and remit sat with the membership of the South Glasgow Hospitals Project Team.

6. The Inquiry understands that drawings and Room Data Sheets (RDS) were approved through the Reviewable Design Data (RDD) process. Describe your role, if any, in the RDD process and User Groups.

A. I had no involvement, input or participation in the Reviewable Design Data process.

a) How were members selected to be part of a user group?

A. I cannot comment on the selection criteria for the group. I suspect that group membership and selection would have been predicated on professional and technical experience, knowledge and qualification. Having had no participation or involvement in the user group meetings, I cannot comment on who attended these.

b) Confirm who attended the user groups meetings from IPC, Estates, Clinical and the GGC Project Team for the following areas: Ward 4B – QEUH; Ward 4C – QEUH; Level 5 – QEUH; Critical Care – QEUH; Ward 2A & 2B – RHC; PICU RHC – RHC; All Isolation rooms

A. I cannot comment on the membership of the group. I would expect that group membership and selection would have been predicated on professional and technical experience, knowledge and qualification. Having had no participation or involvement in the user group meetings, I cannot comment on who attended these.

c) How often were user group meetings scheduled to review design proposals and agree the design with the user groups

A. I am not aware of how often user group meetings were scheduled in order to review the design proposals and agree the design with users. This would have been an action and area of responsibility that sat with the South Glasgow Hospitals Project Team membership which may also have included technical / professional advisors

d) How were drawings and the RDS approved to proceed to construction.

A. I am not aware of the project team governance process which would have been required to allow and support RDS process to proceed to construction.

e) Describe your involvement in the design and RDD process for the Schiehallion unit, PPVL and BMT rooms and PICU in the RHC

A. I had no involvement in the design and RDD process for the Schiehallion unit, PPVL and BMT rooms and PICU in the Royal Hospital for Children. This remit sat with the South Glasgow Hospitals Project Team.

f) Describe your involvement in the design and RDD process for the spaces to house immunocompromised patients, Ward 4C, Ward 4B - BMT Unit, Infectious Diseases and the Critical Care Unit in the QUEH.

A. I had no involvement in the design and RDD process for the spaces to house immunocompromised patients, Ward 4C, Ward 4B - BMT Unit, Infectious Diseases and the Critical Care Unit in the Queen Elizabeth University Hospital. This remit sat with the South Glasgow Hospitals Project Team.

g) Describe your involvement in the design and RDD process for Isolation rooms.

A. I was not involved in the design and RDD process for isolation rooms. This remit sat with the South Glasgow Hospitals Project Team.

7. Please describe how the technical requirements (air change rates, pressure differentials and filter requirements) for the rooms were managed and approved, including your role and involvement.

A. I was not involved in the approval of technical requirements for rooms I would expect this remit would have sat with the South Glasgow Hospitals Project Team which was also supported by a range of qualified professionals and technical advisors.

a) Describe your knowledge and understanding, if any, in respect of the role of value engineer in the design and build of QEUH/RHC. What was the impact, if any, of value engineering on the design and build of QEUH/RHC? What role, if any, did this play in decisions made in respect of the ventilation system? **(Bundle 43, Volume 1, Document No. 11, Page 35)**

A. Value engineering is not a term or process I am familiar with and I can confirm that I had no knowledge, understanding or involvement in the role or remit of value engineering during the design and build of both QEUH and RHC. On that basis I am not able to comment on the impact, across both hospitals, regarding aspects of design and build, in association with the ventilation system

8. What guidance was considered in the design of wards to accommodate immunosuppressed patients, what processes were in place to ensure guidance compliance? Were there any changes to the design during the design and build, if so, please describe any such changes, describe the impact, if any, on guidance compliance, and described the sign off process for any such changes, your involvement and how any changes were communicated to the Board. Was external advance ever sought in respect of design changes?

A. I was not part of the South Glasgow Hospitals Project Team so I am unable to comment on what guidance was considered in the design of wards to accommodate immunosuppressed patients or what processes were in place to ensure guidance compliance. I am also unable to comment on decision making regarding the design or build, which included the approval process for the hospital's infrastructure. I do not know what external advice was sought in respect of design changes nor can I confirm the governance process which supported any changes

9. Who was responsible for confirming filtration and HEPA requirements and who approved this from the GGC Project Team?

A. I am not able to comment in connection with external advice or guidance in relation to any changes associated with the design and build decisions of Queen Elizabeth University Hospital/Royal Hospital for Children. This was the remit of the South Glasgow Hospitals Project team who were supported by technical advisors. In terms of filtration and HEPA approval arrangements, I am not able to comment on who the final decision maker was as I had no role or remit in connection with this action.

10. The Inquiry is aware of a derogation being agreed in respect of the ventilation system and the requirement to achieve ACH in compliance with SHTM. When you began your role at QEUH/RHC what information, if any, were you provided with regarding the ventilation derogation and by whom? When, if at all, did you become aware of this?

A. I was not provided guidance or confirmation of any derogation in connection with changes in ACH compliance. This remit and area of responsibility sat with the South Glasgow Hospitals Project team. The team had a number of

technically and professionally experienced members together with support from a range of technical advisors.

a) What concerns, if any, at the build phase did you have in respect of the ventilation system?

A. I was unaware of this matter and as such had no concerns.

11. Describe your involvement and understanding, if any, in the decision to use chilled beams. Why was the decision taken and by whom? What risk assessments, if any, were taken prior to making this decision? What was the impact, if any, in using chilled beams? In particular, please explain what concerns, of any, did you have regarding the use of chilled beams in high risk areas?

A. I did not have any involvement in the design, selection or decision-making process in connection with chilled beams infrastructure within Queen Elizabeth University Hospital/Royal Hospital for Children. This role, responsibility and remit sat with South Glasgow Hospitals Project team and the technical advisors who were employed by NHSGGC. I have no knowledge of chilled beams. My technical and professional competence and background is predominantly Soft Facilities Management and not Hard Facilities Management.

Horne Taps

12. Describe your involvement, if any, in respect of the decision to use Horne taps.

A. I had no involvement in the decision taken to use Horne taps within Queen Elizabeth University Hospital/Royal Hospital for Children This is not my area of expertise therefore I was unaware of issues and am unable to comment further on the decision making or risk assessment process.

a) What concerns, if any, did you have regarding the use of Horne taps?

A. I was not involved or aware of this matter and therefore had no concerns

b) What risk assessments were carried out in respect of the use of Horne taps?

A. I had no involvement in the decision taken to use Horne taps within Queen Elizabeth University Hospital/Royal Hospital for Children. This is not my area of expertise therefore I was unaware of issues and am unable to comment further on the decision making or risk assessment process.

c) Who was involved in, and who signed off the use of Horne taps?

A. I was not involved or aware of this matter and am unaware who signed off the use of Horne taps

d) Did you attend the meeting regarding the use of Horne taps in 2014? If so, why was the decision made to proceed with Horne taps?

A. No

Ward 4B and 4C

13. The Inquiry understands that Ward 4B in the QEUH was originally intended to provide accommodation for Renal and Haemato-oncology. The 2009 NHS Clinical Output Specification for the Haemato-oncology ward confirmed "Please note the haemato-oncology ward area has a very specific function and a considerably higher than average requirement for additional engineering support/infrastructure. There should be no opening windows, no chilled beams. Space sealed and ventilated. Positive pressure to rest of the hospital and all highly filtered air >90%, probably best HEPA with adequate number of positive pressure sealed HEPA filtered side rooms for neutropenic patients as in the Beatson West of Scotland Cancer Centre." **Refer to Bundle 16, Document No.15 , Page 1595.** However minutes from the Quality and Performance Committee dated 2 July 2016 **(Bundle 34 , Document No. 62, Page 542)** and the Change Order Request in July 2013 by Jonathan Best **(Bundle 16, Document No.29, Page 1699)** confirm that the Bone Marrow Transplant (BMT) service would transfer to Ward 4B in the QEUH and the haematology patients that were originally planned to accommodate Ward 4B would move to Ward 4C.

a) What was your involvement, if any, in respect of this?

A. I had no involvement in the decision-making process in connection with changes or adaptations regarding the design and build specification relating to Queen Elizabeth University Hospital Wards 4B and 4C. This would have been a decision and action led by South Glasgow Hospitals Project team in consultation with the building provider, Brookfield Multiplex.

b) Please confirm how this change was communicated to the project team and Multiplex and how this change was captured in the design and specification documentation.

A. I am unable to comment on this as I had no involvement in the process

14. The Inquiry understands that 10 rooms were provided for Haemato-oncology patients (Rooms 66 to 75) in Ward 4C, these rooms had no HEPA filtration, 2.5 – 3 ACH per hour, included chilled beams; rooms were at a balanced or slightly positive pressure to the corridor and had suspended ceilings fitted in patient bedrooms and ensuites.

a) Who approved and signed off on this specification for the Haemato-oncology patients to be accommodated in Ward 4C?

A. I was not involved in the approval for the specification of Haemato-oncology patient's rooms in relation to being Queen Elizabeth University Hospital Ward 4C. I was not part of the decision-making governance process and therefore cannot comment in connection with the membership arrangements which may have included IPC representation

b) What concerns, if any, did you have?

A. I had no concerns because I was not involved in the initial review, assessment or decision-making arrangements.

c) Describe the IPC involvement in the design of Ward 4C, who was involved and who signed off the final design and when.

A. See Answer to Question 13a.

Ward 2A/ 2B RHC

15. The Inquiry understands that Ward 2A/2B is the paediatric-oncology Unit and includes the Teenage Cancer Trust and the paediatric Bone Marrow Transplant (BMT) Unit - the department is known as the Schiehallion Unit.

a) Confirm your understanding regarding the intended use and purpose of the Ward 2A/ 2B, what guidance was considered in the design of these wards, what processes were in place to ensure guidance compliance?

A. I was aware that the intended use of RHC Wards 2A and 2B were identified for paediatric - oncology care. In terms of the guidance used as part of the design arrangements, together with the process to ensure guidance compliance, this responsibility was sat with the South Glasgow Hospitals Project team. I had no involvement in this part of the process.

b) What changes, if any, were made to the design during the design and build? Please describe any such changes, describe the impact, if any, on guidance compliance, and described the sign off process for any such changes, your involvement and how any changes were communicated to the Board. Was external advice ever sought in respect of design changes?

A. I have no knowledge of any changes made to the ward specification during the design and build phase of the project. This action and responsibility would have been taken forward by the South Glasgow Hospitals Project team membership. In terms of external advice being sought, the South Glasgow Hospitals Project team had access to professional advice and expertise, as part of the project support, this was provided by the board's technical advisors, in addition to the contractor appointed specialist designers. With reference to the final design sign off, I cannot confirm when or who this sat with as I had no involvement or participation in this part of the design and build process.

c) Describe the IPC involvement in the design of Wards 2A and 2B, who was involved and who signed off the final design and when.

A. I was not part of the South Glasgow Hospital Projects team and cannot comment on IPC involvement in the design of Wards 2A and 2B, or who was involved and who signed off the final design and when.

d) What concerns, if any, did you have regarding the final design specification of Wards 2A and 2B, and what action, if any, did you take in respect of these concerns?

A. As explained above my role and remit at that time had no involvement in this part of the process therefore, I can't comment on this question.

Isolation Rooms

16. What concerns, if any, did you have regarding isolation rooms and compliance with SHTM/HTM? What action, if any, did you take in respect of any such concerns?

A. SHTM/HTM are not my area of expertise or experience. This action would have sat with the South Glasgow Hospitals Project team. My role/remit did not have any requirement or responsibility to update or amend the RDS. This was an action of South Glasgow Hospitals Project team.

a) At the time, what was your understanding, if any, of the mandatory requirement provided for within the Employer's requirements in respect of complying with SHTM/HTM in respect of ventilation?

A. I can confirm that I did not have any understanding, knowledge or involvement of the mandatory requirement provided within the Employers requirements concerning SHTM / HTM ventilation compliance. I do not have expertise in this area therefore it was not part of my role or remit.

b) The Inquiry has reviewed the RDS in excel format and note there is an entry under 'Design Notes' relating to Ward 2A isolation rooms; the entry states: *WARNING NOTICE: This room is based on a theoretical design model; which has not been validated (see paragraph 1.8 of HBN 4 Supplement 1). Specialist advice should be sought on its design. The lamp repeat call from the bedroom is situated over the door outside the room.*

(i) Was this note entered on the RDS? If so, why and by whom?

A. SHTM/HTM are not my area of expertise or experience. This action would have sat with the South Glasgow Hospitals Project team. My role/remit did not have any requirement or responsibility to update or amend the RDS. This was an action of South Glasgow Hospitals Project team.

(ii) What specialist advice, if any, was sought relating to the design of these rooms?

A. I am not able to comment on specialist advice arrangements for isolation rooms. This was an action which sat with South Glasgow Hospitals Project team.

(iii) What was the final agreed design for isolation rooms and who approved this?

A. I was not involved in any aspect of the design and final decision-making arrangements for isolation rooms therefore I have no knowledge of this (or the governance process) and on what basis the decision was made, approved and ratified.

c) What ceiling types were specified and approved for use in isolation rooms? Who from the GGC Project Team approved this? Describe your involvement, if any? What was the impact, if any, of the choice of ceiling tiles? What concerns, if any did you have regarding the choice of ceiling tiles?

A. I was never part of the South Glasgow Hospitals Project team therefore I am not able to confirm who would have had responsibility for approving the design criteria and specification. I cannot confirm or explain what the impact of the ceiling choice was as this was not part of my remit.

Handover, Commissioning and Validation

17. In respect of commissioning and validation please confirm the following:

a) Describe your role in the lead up to commissioning. What action, if any, did you take to ensure that the wards within RHC and the QEUH met the guidance requirements of SHTM.

A. In the lead up to commissioning I was General Manager with operational responsibility for both South and Clyde Sectors which includes Domestic Services, Portering, Patient and Retail Catering and Estates. My primary focus was in regard to the workforce transition which required the successful redeployment of approximately one thousand staff from demitting NHSGGC sites such as Royal Hospital for Sick Children, Victoria Infirmary, Western

Infirmary Glasgow and Southern General Hospital. This was an intensive process which required significant planning and consultation arrangements with trade union colleagues, together with the staff groups affected by the closure of the demitting sites. In terms of ensuring wards within Royal Hospital for Children and Queen Elizabeth University Hospital met guidance requirements of SHTM, my role and focus at that time was predominately Soft FM. There was a dedicated group of staff (albeit this was subject to regular change) dealing with technical matters as well as a dedicated group of staff who undertook a range of cleaning tasks and duties across both hospitals. The Facilities Management team had regular contact with Facilities lead within the South Glasgow Hospitals Project. This informed the support arrangements that were required such as cleaning, equipping and orientation. Cleaning requirements conformed to the specification set out within the NHS Scotland National Cleaning Services specification.

b) Describe what commissioning of the water and ventilation system took place prior to handover, and your involvement, if any.

A. I cannot comment in relation to the commissioning of both the water and ventilation systems as this was not my specific area of focus and priority at that time. The staff workforce redeployment exercise, together with the negotiation and communication requirements was a significant undertaking due to the amount of Estates & Facilities staff affected by the process. The engagement exercise and the coordination of this took a significant amount of dedicated time to manage.

c) Who was responsible for ensuring that commissioning of the water and ventilation system was carried out, and who signed off that it had been carried out? What concerns, if any, did you have regarding commissioning and validation being carried out prior to handover?

A. In terms of the commissioning of the water and ventilation system, I am not clear who had overall responsibility for signing this off on behalf of NHSGGC. This may have been the responsibility of South Glasgow Hospitals Project team.

d) The Inquiry understands that NHS GCC decided to forgo the requirement to have an independent commissioning engineer. Who made this decision? What was the impact, if any, of this decision? In hindsight, do you think that it was the correct decision?

A. I am not aware that NHSGGC decided to forgo the requirement to have an independent commissioning engineer. The decision and basis of this was not part of my operational role and responsibility as General Manager for both South and Clyde Sectors. I do not know who, or what group or forum, would have made this decision. I cannot comment on the impact of the decision not to employ an independent commissioning engineer. I am aware of the challenges that unfolded however I cannot comment on whether or not, a commissioning engineer would have remediated water and ventilation issues. In hindsight it's difficult for me to comment on this decision when I do not have technical knowledge or expertise in water and ventilation systems.

e) The Inquiry understand that no validation was carried out in respect of the ventilation system. When did you become aware of this? How did handover come to be accepted without the ventilation system being validated? Who was responsible for this and who signed off on this?

A. I was not aware that there was no validation of the ventilation system. I cannot comment on why a decision was taken to accept the ventilation at the point of handover without any validation process being established or implemented. My role and focus at that time was predominantly oversight of the staff workforce plan. I am not able to confirm who had responsibility for validation of the ventilation system.

18. Describe your role in the lead up to accepting handover.

A. In the lead up to commissioning I was General Manager with operational responsibility for both South and Clyde Sectors which includes Domestic Services, Portering, Patient & Retail Catering and Estates. My primary focus was in the workforce exercise which required the successful redeployment of approximately one thousand staff from demitting NHSGGC sites such as Royal Hospital for Sick Children, Victoria Infirmary, Western Infirmary Glasgow and Southern General Hospital. This was a rigorous process which required significant planning and consultation arrangements with trade union

colleagues, together with the staff groups affected by the closure of the demitting sites.

a) What action, if any, did you take to ensure that the wards within RHC and the QEUH met the guidance requirements of SHTM.

A. In terms of ensuring wards within Royal Hospital for Children and Queen Elizabeth University Hospital met guidance requirements of SHTM, my role and focus at that time was predominately Soft FM focused, there was a dedicated project and technical team. There was a dedicated group of staff who undertook a range of cleaning tasks and duties across both hospitals. The Facilities Management team had regular contact with Facilities lead within the South Glasgow Hospitals Project. This informed the support arrangements that were required such as cleaning, equipping and orientation. Cleaning requirements conformed to the specification set out within the NHS Scotland National Cleaning Services specification.

b) How were you assured that the wards met the requirements of the specific patient cohorts?

A. My focus at the time related to Soft Facilities Management. In terms of each area meeting the requirement of the patient cohorts, I focused on ensuring that all wards were clean, equipped and stocked from a Facilities perspective, this related to Domestic Services, Catering, Linen and other basic supplies. Prior to Queen Elizabeth University Hospital and Royal Hospital for Children wards opening for in-patient occupancy from the demitting hospitals, Facilities Management colleagues worked closely with a range of other stakeholder colleagues to ensure preparedness. However, given the joint expertise to design and deliver the hospitals I would have expected that appropriate due diligence would have been undertaken to provide assurance.

19. Who oversaw contractual compliance? Who was responsible for ensuring that the paperwork was produced to confirm contractual compliance? What action, if any, did you take to ensure that paperwork was in place to ensure contractual compliance? Was validation of the ventilation system a contractual requirement? If so, who signed off on contractual compliance given the lack of validation?

A. I am not sure who specifically, or what group had responsibility however I would expect it to be a collaborative responsibility between the contractor, project team and the site estates team for overseeing contractual compliance together with ensuring that the paperwork was produced to confirm this. I did not have any involvement or participation in this process. I am not able to comment or confirm if validation of the ventilation system was a requirement. I did not have any involvement in the design and commissioning of this system. I cannot confirm who, on behalf of NHSGGC, took responsibility for signing the ventilation system off.

20. Who was responsible for providing asset tagging. Why was there no asset tagging, who decided to proceed without it?

A. I understand that the hospital construction contractor had responsibility for providing asset tagging however this was not initially apparent, to myself. I do not know why there was no asset tagging provided. My focus was predominantly Soft Facilities and ensuring the daily operational delivery of services across both South and Clyde Sectors. I am not able to confirm who took the decision to proceed without asset tagging being available.

21. Are you aware of the water system having been filled prior to handover on 26 January 2015, if so, who filled the system, why was it filled and what concerns, if any, did you have, and if you had concerns to whom did you escalate these concerns?

A. I was not aware of the water system being filled prior to handover, I am not aware of who filled the system and I am not aware of why a decision was taken to fill the system. At this time I did not have any concerns in connection with the water system and therefore had no cause to escalate. My role and focus was the smooth transition of Estates and Facilities workforce from

demitting sites due to the number of staff affected by the process (this was around one thousand staff). The workforce plan, prior, during and after commissioning continued to require a significant amount of dedicated time, to ensure that staff concerns with a new working environment were being addressed.

22. At handover, describe the staffing levels in Estates and Facilities. What concerns, if any, did you have regarding staffing levels in Estates and Facilities. What action, if any, did you take in relation to any concerns you had, including escalation of concerns and to whom?

A. Handover took place in January 2015 which allowed for a 12 or 13 week commissioning period. At that time my focus was predominately the ongoing cleaning of the building while reacting to any unplanned event that may require support from Facilities Management colleagues. There was a dedicated team of staff who were available, over seven days, to provide cleaning and any other reactive support that may have been required. From April 2015 onwards the Estates and Facilities staffing model was introduced. The basis of the staffing model was predicated on a range of baseline activity data that was shared by various colleagues. Over the course of time it became clear that some of the operational activity assumption's and planning decisions required further review and adjustment to balance activity and workforce resource. The attached document **(Bundle 43, Volume 3, Document No. 60, Page 1689)** establishes the movement in workforce staffing compliment across both Estates and Facilities since April 2015. This information was collated from data provided by finance colleagues from payroll and master rosters at the time. The service that concerned me most was Domestic Services. The activity demands compared to the available staffing compliment presented an operational challenge. The model of service delivery for QEUH and RHC focused on dynamic risk assessment approach, this required a different cleaning rationale by comparison to previous cleaning arrangements within other NHSGGC hospitals. In addition to this the role and structure of supervisory and management teams reflected a different, modernised approach. This change, despite the planning, preparation and training did not work and presented itself in operational problems in terms of lack of service continuity. Various discussions took place however it was not

until 2019/20 that the management structure and staffing compliment changed. At that point the service became more stable.

a) Who produced / introduced the Estates and Facilities staffing model in April 2015? Why did it require a further review?

A. Prior to the opening of QEUH and RHC, a dedicated group of managers led by the Associate Director of Estates & Facilities developed the proposed Estates and Facilities staffing models. This staffing model was based on a range of service activity data which was provided by other groups (such as diagnostics). Whilst I wasn't involved in the proposed staffing models my role thereafter would be its implementation with my primary focus continuing to be Facilities, more so Domestic Services. Around 2019 a review of the service took place, this was in response to an unannounced Health Improvement Scotland inspection which identified opportunities for improvement. The review exercise focused on activity demands verses Domestic Services resource. It became apparent that discharge cleaning activity of patient single rooms and en-suites required additional dedicated in-put hours as the activity within this area was greater than previously considered or forecast. The outcome of that review was supported by the board leading to additional Domestic Services staff being funded and recruited, which therefore positively influenced revised service realignment and ultimately stability.

DMA Canyon

23. At handover, had a preoccupation L8 risk assessment been carried out? Who was responsible for ensuring that this was in place prior to patient migration? Were you aware of a preoccupation L8 assessment having been carried out? Who instructed it? When did you become aware? If you were not aware of such assessments being instructed prior to patient migration, why did you not raise it as a concern that you had not seen this prior to patient migration? Was this not within the remit of your role?

A. At handover I was not aware, whether a preoccupation L8 risk assessment had been carried out. I am not certain if this action would have been the responsibility of the contractor, the South Glasgow Hospitals project team or South Sector Estates Management prior to patient migration from the demitting sites. Later, around summertime 2018 I became aware that a risk assessment had been undertaken by DMA canyon, on behalf of South Sector Estates Management. This was requested by the Sector Lead for Estates. I did not raise the question about water risk assessment as I was unaware of it or the risk at that time as my focus was predominantly the workforce transition process. While I was General Manager with operational responsibility for both South and Clyde Sectors which includes Domestic Services, Portering, Patient an Retail Catering and Estates. My primary focus was in the workforce exercise which required the successful redeployment of approximately one thousand staff from demitting NHSGGC sites such as Royal Hospital for Sick Children, Victoria Infirmary, Western Infirmary Glasgow and Southern General Hospital. This was an intensive process which required significant planning and consultation arrangements with trade union colleagues, together with the staff groups affected by the closure of the demitting sites. In addition to this, the transition of staff, post-handover required ongoing support as a number of staff concerns and escalations emerged, which required remediation.

a) Please provide details of staff concerns and escalations which required remediation?

A. The examples highlighted below are provided in response to staff concerns and escalations following the large-scale workforce migration exercise from demitting NHSGGC hospitals to QEUH and RHC. This response pertains to Facilities staff as this was the staff group that I predominantly focused on. Due to the scale and size of the workforce project, I think that it was inevitable that there would be a range of operational issues raised by staff groups. In response to this, Facilities Management colleagues, together with myself, worked collaboratively with trade union colleagues and staff, to remediate, where possible and feasible to do so, the concerns that were raised. Some examples of staff concerns and service improvement outcomes are noted below:

a) Domestic Services :

i) Manual handling issues were experienced due to waste bins within single patient rooms and en-suites being too small. This was remediated as larger bins were purchased as a suitable alternative replacement. In addition to this further escalation was raised in connection with mattress cleaning which was undertaken by Domestic Services staff following patient discharge. While the cleaning task was not an issue, many staff struggled to turn the mattress over and therefore raised this a manual handling issue. A risk assessment process was undertaken, and this action became a two-person task, which was person and situation dependant.

ii) Initially Domestic Services staff were required to log single patient room and en-suite cleaning each day as part of an electronic process which was a service development. In response to this, ongoing staff training was undertaken to address this. This practice did not occur across other NHSGGC hospitals / Domestic Services departments. It was introduced as a new concept and service development.

iii) The revised model of Domestic Services incorporated bed cleaning and linen removal at the point of patient discharge. This was not part of the Domestic Services work schedule across demitting sites;

therefore, ongoing discussion, reassurance and training was provided. During 2019/20 further improvement occurred following the realignment of Domestic Services which included the recruitment of additional staff. Single patient room cleaning was predicated on a revised and new methodology known as dynamic risk assessment. This was intended to be an innovative approach to provide cleaning within in-patient single room and en-suite accommodation. Some staff struggled with this concept and raised concerns about it. Later, in conjunction with service realignment, this practice ceased, enabling a return to standard daily cleaning. The occupancy within the hospital was significantly greater that what had previously been planned for.

b) Patient Catering

i) Patient catering staff felt that their work schedule was excessive, and this was raised by trade union colleagues as part of supportive discussions. In response to this management worked in partnership with trade unions and patient catering staff to review work schedules and develop a revised service delivery approach. This exercise took some time to conclude however once a revised and satisfactory model was established and agreed, this was implemented across both QEUH and RHC.

c) Portering and Security Staff

i) Both staff groups felt that the 24/7 rotational (day, back, night) shift pattern detrimentally impacted work-life balance, especially staff with carer and or family commitments. This led to a working group being established to identify and trial various rosters. After some time, a revised shift pattern was established which reflected aspects of the twelve hour nursing roster. This resulted in a longer working day however increased days off, which improved work life balance for both groups of staff.

d) Portering (patient transfers by trolley)

i) Several Porters expressed concern with the task of single patient transfers by trolley. This resulted in an exercise to install automated doors within high volume transfer routes, which improved access and

egress arrangements, together with the option for a two-person (staff) patient transfer which was person specific and dependant.

e) Generic concerns

i) Staff raised concern about walking time to and from their base location and the impact this had on dedicated rest breaks. A process took place to identify accommodation which could be accessed, for rest breaks, closer to dedicated work base locations, to reduce walking distances and the time this took.

f) Communication

i) Several staff groups raised concern about the lack of communication. This was discussed with trade union colleagues and thereafter morning communication huddles were introduced between Supervisors and staff. At the point of QEUH and RHC opening, and following the workforce migration exercise from demitting hospitals, the supervisory and management model was predicated on an integrated approach. This changed with a revised supervisory and management structure being implemented which was service specific.

24. The Inquiry has heard evidence during the hearing commencing 20 August 2024 regarding the DMA Canyon 2015 report. **Please see Bundle 6, document 29.** The Inquiry has heard oral evidence from Ian Powrie that you were aware that the 2015 DMA Canyon report had been ordered by him. What action, if any, did you take to follow up on the ordering of this report?

a) When, if at all, did you ask to see the report?

A. I did not specifically ask to see the report. I became aware of the report following a telephone call my line manager around summertime 2018.

b) Were you aware of an action plan having been made in respect of the report, if so, but whom?

A. I was not aware of any action plan in connection with the initial risk assessment / report until this was raised around summer 2018. This is the first time that I had any knowledge of it.

c) What actions were you aware of having been taken in response to the report? If actions were taken, by whom and when? Were you aware of the findings of the 2015 being escalated, if so when and to whom?

A. Following the initial telephone conversation with my line manager, Associate Director of Estates & Facilities, a meeting took place the next day within Queen Elizabeth University Hospital. I was present together with my line manager, Associate Director of Estates & Facilities, General Manager Estates (Corporate) and Deputy General Manager Estates (Corporate). During this meeting we discussed the risk assessments / reports relating to 2015 and 2017. The focus of the meeting related to the action plan requirements. Until the previous day (the telephone conversation with my line manager) I had no knowledge, access or awareness of the 2015 and 2017 risk assessments. During the meeting, the Deputy General Manager Estates (Corporate) described current status in connection with the risk assessment / report action plan arrangements. The actions were being taken forward by the Deputy General Manager Estates (Corporate), General Manager estates (Corporate), together with members of South Sector Estates team who had professional expertise and knowledge of water systems. I am also aware that Jim Leiper was providing a range of technical support.

d) Please describe the action plan requirements discussed in the meeting regarding the content of the DMA Canyon reports of 2015 and 2017?

A. During the meeting, an action plan was tabled based on the areas identified for improvement within the previous risk assessment reports. Each action had been assigned to an Estates Manager, such as Authorising Person (water) for completion. Both General Manager Estates (Corporate) and Deputy General Manager Estates (Corporate) were taking responsibility for coordinating the completion of the action plan.

e) The Inquiry understands from the evidence of Tom Steele that the report became widely known in around 2018. Why was the presence of the report not known prior to then?

A. I cannot comment why the report was not known about before then as I too was unaware of the report prior to this. I laterally found out the commissioning manager Ian Powrie Deputy General Manager Estates, had received the report.

f) When did Ian Powrie receive the 2015 report? What action did he take in respect of it?

A. After the event, and following discussion with Associate Director Estates & Facilities, General Manager Estates (Corporate) and Deputy General Manager Estates (Corporate), I found out in 2018 that Ian Powrie had received the 2015 risk assessment report soon after it was concluded by DMA. This was not shared with me, and I had no knowledge of it until 2018. During the meeting in 2018, Ian Powrie described some of the actions that he had taken and referred to how he had delegated some of the remedial actions to members of the Estates team who had specific responsibility for water.

g) The 2015 report made several recommendations, what impact, if any, did the lack of action in respect of the 2015 report have on the water system at QEUH/RHC?

A. I do not have a technical or professional background in water management systems therefore cannot comment on the impact that the lack of action had, following the 2015 report, in connection with the water system across Queen Elizabeth university Hospital and Royal Hospital for Children.

Workplace Culture

25. Were you aware of any direction from the Project Management Team or Estates Team to withhold information from infection control colleagues? If so, from whom did this direction come? What concerns, if any, did you have regarding the sharing of information between estates and infection control/ clinical staff?

A. I can confirm that I was never aware at any time direction to withhold information from the Project Management Team or Estates Team. This was never discussed or suggested in any of the discussions or meetings that I attended. I have never had any concerns about sharing information. I have never had any issue with transparency.

Post Handover Issues

26. The Inquiry understand that you sat on Board Water Safety Group. Describe your involvement, if any in respect of water testing pre & post-handover, Legionella testing, flushing of water outlets, drains and taps (including cleaning).

A. The Board water safety group had representation from all sector Estates and Facilities General Managers, including myself together with Sector Estates leads and other professionals also participating. My role was a managerial role to assess resource requirements if required. In terms of pre and post-handover, I am aware that water flushing across Queen Elizabeth University Hospital and Royal Hospital for Children was supported by Facilities staff. Legionella testing would have been undertaken in accordance with the Boards policy. If any test results reported an exception out with acceptable tolerance levels, Estates Management colleagues would undertake a process of remedial action and re-testing until satisfactory results were achieved.

27. The Inquiry has heard evidence regarding the water incident in 2018, and issues surrounding the water system at QEUH/RHC. Describe your recollection of any water issues at QEUH/RHC, your involvement, if any, any action taken by you and the escalation process carried out in respect of water issues at QEUH/RHC.

A. At the beginning of January 2018, a change in the General Management structure / arrangements was undertaken. This resulted in a four Sector model being introduced as opposed to the previous three Sector model. I took up General Manager position within North East Sector. South and Clyde Sectors were split resulting in two General Managers taking responsibility for these areas. I had no direct management responsibility for South Sector from January 2018, until my return to South Sector in August 2019, at that time a revised management structure was introduced and I no longer had a remit for operational estates. I therefore had no involvement in the water incident in 2018.

28. Describe your involvement, if any, in respect of estates issues escalated at PAGs and IMTs.

A. PAG and IMT are part of the Boards risk management process. I did and continue to attend these meetings as required. Normally I would attend these with other colleagues from Estates and Facilities. During the course of the PAG or IMT, an action plan would be identified and agreed by the group membership. If there were designated Estates and Facilities actions, I, together with support from Estates and Facilities Management colleagues, would provide assurance or evidence confirming completion of the designated action.

29. The Inquiry understands that issues with ward 4B, BMT Unit first arose in July 2015. When did you first become aware of issues with the specification of Ward 4B? What was your understanding of the issues with Ward 4B, What action, if any, did you take in respect of such concerns and what was the outcome?

A. I am not sure of the exact date when I became aware of specification issues in connection with Queen Elizabeth University Hospital Ward 4B (Bone Marrow Transplant). From a recent review of my email communication, I was aware of

issues in relation to ventilation throughout 2017. The issues that I became aware of related to room pressurisation and ensuite room ceiling replacement which required remedial action as part of a multi-disciplinary group in terms of decision making and HAI SCRIBE approval. There were also some issues associated with heating controls. In terms of my action and involvement, I participated in a few multi-disciplinary group meetings, which were aimed at progressing the proposed remedial programme of works, following HAI SCRIBE sign off.

30. The Inquiry understands that NHS GG&C commissioned Currie and Brown to carry out a feasibility study in November 2016, to investigate a new location for the (BMT) Unit within the Queen Elizabeth University Hospital (QEUH) Glasgow campus **Refer to Bundle 23, Document No.25, Page 231.** Why was a feasibility study investigating alternative locations required? Who was this report prepared for? Who was this report shared with? What was your involvement and what concerns, if any, did you have regarding the BMT unit? What action, if any, did you take in respect of such concerns and what was the outcome

A. I am not sure why the feasibility study was undertaken around November 2016, to consider alternative locations. I am also not sure who commissioned the report or who the report was shared with. My involvement, from memory and from email communication that I have located, relates to 2017 timeline, at that point there was a lot of focus around the HAI SCRIBE sign off. Concerns were raised by ICD which had impacted the programme of works progressing in accordance with the initial proposed timeline. I did not have concerns as such; however I was mindful of the level of focus on this particular project and I was keen to support the continuation of the planned remedial works.

a) Question for Witness: What concerns were raised with ICD which impacted on the programme of works progressing in accordance with the initial proposed timeline?

A. I had no personal involvement with this however from the information that I have read as part of Bundle 23, No.25, Page 231, I can see that ICD latterly had concerns with the HAI SCRIBE which resulted in a delay of the approval and sign off process. I have read that this did lead to the HAI SCRIBE

document being approved later than anticipated, which in turn allowed for the programme of work to be taken forward.]

31. The Inquiry understands that David Loudoun drafted a report, dated 25th February 2016 regarding the Design, Construction and Commissioning for Ward 4B, Preparation rooms within Theatre Suites and the Schiehallion Ward Ventilation **Refer to Bundle 23, Document No.77 , Page 768.** Were you aware of this report at the time? If so, why was this report commissioned? Who was this report prepared for? Who was this report shared with? What concerns did you have regarding the areas mentioned in the report? What action, if any, did you take in respect of such concerns and what was the outcome?

A. I do not recall being aware of it at the time I have subsequently read the report. I can see that the report describes technical performance challenges together with governance arrangements taken by membership of South Glasgow Hospitals Project Team. I was not part of the South Glasgow Hospitals Project team, therefore I was not involved in technical aspect of QUEH / RHC design, construction and commissioning arrangements. I had no involvement in the completion or interpretation of the report and therefore cannot comment with any certainty or accuracy why the report was commissioned, who the intended report recipients were and who ultimately received the report. In terms of the areas mentioned, I didn't have concerns in 2016 as the overarching operational situation was very reactive at the time.

32. The Inquiry understands that issues regarding the BMT isolation Rooms in Ward 2A RHC first arose in July 2015. When did you first become aware of issues with the Isolation Rooms in Ward 2A? What action, if any, did you take in respect of such concerns and what was the outcome?

A. I first became aware of issues within BMT isolation rooms within Royal Hospital for Children Ward 2A during 2015. In terms of action, I participated in multi-disciplinary meetings and, at times, deputised for Director of Estates & Facilities (David Loudon). During one meeting, dated 7th September 2015, the Director of Estates & Facilities and I were allocated with several actions, which I progressed and responded to, with the help and support of Estates colleagues **(Please refer to Bundle 43, Volume 3, Document No. 50, Page**

1544).

33. The Inquiry is aware that the ventilation system in Ward 2A RHC was completely replaced resulting in the ward closing for over 3 years. When did you first become aware of issues with the ventilation system in Ward 2A? What action, if any, did you take in respect of such concerns and what was the outcome?

A. I had been aware of issues associated with the ventilation systems within RHC Ward 2A from 2015 and I was also aware of the programme of remedial works that took place to improve this. In terms of the issues associated with the ventilation system, I am not sure when I became aware of this, however, I do recall that I provided General Manager Support around September 2018, during a colleague's period of leave. This support enabled the completion of a programme of work, within Queen Elizabeth University Hospital Ward 6A, which was identified as the decant facility for Royal Hospital for Children Ward 2A/B patients. At the beginning of January 2018, I ceased being General Manager, Estates & Facilities, for South and Clyde Sectors, and became General Manager, Estates & Facilities, North East Sector. Due to the change in management location and responsibility, I do not recall having specific concerns, however I was mindful of the requirement to mobilise and prepare Queen Elizabeth University Hospital Ward 6A for the transfer of Royal Hospital for Children Ward 2A/2B patients, to allow the restoration programme of works within RHC ward 2A/2B to commence.

34. The Inquiry understands that no negative pressure isolation rooms were provided at handover for infectious disease patients. Please explain why no negative pressure isolation rooms were provided for and what action, if any, did you take in respect of such concerns and what was the outcome?

A. I was not involved in this design requirement. This was not my role or remit. My focus at the point of handover was the transition of Estates & Facilities staff from all demitting sites. I do not recall there being no negative pressure rooms at the point of handover for infectious disease patients. I am not able to explain why this was the case.

35. Describe your understanding of the planned preventative maintenance (PPM) which was in place following contractual handover on 26 January 2015. Describe what PPM was in place, if any. Who was responsible for ensuring that PPM was in place. What concerns, if any, you had regarding PPM. Any action you took in respect of PPM not being in place.

A. I cannot comment with certainty on the specifics of the planned preventative maintenance (PPM) arrangements which were in place at the point of contractual handover on 26th January 2015. I would have expected ongoing dialogue between the contractor, designers and the operational estates team. My focus at that time was predominately Soft Facilities Management operational support, with a significant part of that relating to ongoing and reactive cleaning arrangements across QEUH / RHC. In addition to this I was heavily involved in the workforce planning arrangements, supporting the redeployment requirements of approximately one thousand staff from the NHSGGC demitting sites. I am aware that the coordination of PPM was taken forward by South Sector Head of Estates, together with support from the Estates Management team and I am also aware that there were issues with building readiness such as significant ongoing construction, remedial or snagging works. I know this because of the level of reactive cleaning that was required following a number of floods and other works within the hospital which required cleaning support. PPM arrangements would have been taken forward by South Sector Head of Estates together with the local Estates team however the impact of some of the building defects at the time may have had an impact on PPM. I never had any concerns raised to me nor did I have any concerns as my focus, at that time, was dedicated to other aspects of mobilisation such as the extensive workforce planning and coordination.

Conclusion

36. Is there any further information that you consider to be relevant or of interest to the inquiry?

A. Based on my experience, the operating circumstances following the opening of QEUH and RHC were, at times, beyond challenging. Estates and Facilities Management teams were required to deliver daily operational services while often reacting and responding to numerous unplanned, unexpected and at times extenuating situations and events. In addition, my role as General Manager at that time, extended to include responsibility for South and Clyde Sectors which became effective from late 2012. This ceased when I relocated to Northeast Sector in January 2018, thereafter a four Sector model was introduced opposed to the previous three Sector model. It's hard to describe with accuracy the full effect of working within this environment together with the impact that this had on myself and colleagues. I have never experienced anything quite like the scale of QEUH and RHC in my whole NHS career. From my recollection everyone was doing their utmost to provide fit for purpose services, however, from personal experience, I was genuinely concerned about my own (and others) health and well-being as the sheer demand, volume and urgency of work often left me feeling overwhelmed, irrespective of the amount of time that was given by me and many others. Based on my personal reflection, I would suggest that SHI consider the wider context of QEUH and RHC and its associated impact on people as I genuinely believe teams and individuals did their very best in, what turned out to be, an unfamiliar environment which was further exacerbated due to a frequent range of complex and completely unexpected infrastructure, system and equipment failures.

Declaration

37. I believe that the facts stated in this witness statement are true. I understand that proceedings for contempt of court may be brought against anyone who makes, or causes to be made, a false statement in a document verified by a statement of truth without an honest belief in its truth.

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

Appendix A

A48699205 – Bundle 43, Volume 1 – Procurement, Construction, Contract and Design Miscellaneous Documents
A35184640 – Bundle 16 – Ventilation PPP
A34872080 – Bundle 34 – Performance Review Group and Quality and Performance Committee Minutes and Relevant Papers
A36372603 – Bundle 16 – Ventilation PPP
A43293438 - Bundle 6 – Misc Documents
A39465091 – Bundle 23 - Queen Elizabeth University Hospital and Royal Hospital for Children, Isolation Rooms
A41683176 - Bundle 23 – Queen Elizabeth University Hospital and Royal Hospital for Children, Isolation Rooms

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

Appendix B

A51721984 - Billy Hunter - CV
A51721987 – Bundle 43 - Volume 3 - Procurement, Contract, Design and Construction, Miscellaneous Documents
A51721979 - Bundle 43 - Volume 3 - Procurement, Contract, Design and Construction, Miscellaneous Documents
A51721982 - Bundle 43 - Volume 3 - Procurement, Contract, Design and Construction, Miscellaneous Documents

1. William Hunter

Career Timeline

- Deputy Director Facilities & Corporate – NHSGGC; 1st July 2022 – Present
- Assistant Director Facilities (South Sector) – NHSGGC; 1st August 2019 – 30th June 2022
    - North East / West Sector - 15th January 2018 – 31st July 2019
    - South & Clyde Sector - 1st October 2012 – 14th January 2018

  (Merged because of the Retirement of the Clyde Sector General Manager)
    - South Sector - 1st August 2011 – 30th September 2012
    - North East Sector - 1st November 2008 – 31st July 2011
    - West Sector - 1st January 2006 – 31st October 2008

- General Manager, Estates & Facilities – NHSGGC Southern General Hospital; 1st June 2000 – 31st December 2005
- Deputy Hotel Services Manager – NHSGGC Southern General Hospital; 29th March 1999 – 31st May 2000
- Catering Manager - North Lanarkshire Council; 2nd December 1996 – 28th March 1999
- Project Development Manager - East and Midlothian NHS Trust, Eastern General Hospital; 1st May 1993 – 1st December 1996
- Catering Manager - Scottish Health Service Centre, Management Development Group; 7th October 1991 – 30th April 1993
- Trainee Hotel Services Manager - Ayrshire and Arran Health Board, Ailsa Hospital; 19th August 1985 – 6th October 1991
- Kitchen Superintendent / Head Chef / Assistant Head Chef / Chef / Trainee Chef

1.1 Professional Qualifications and Training

- Post Graduate Diploma in Health Care Management, Strathclyde University
- ROSPA Manual Handling Instructor & Assessor Certificate
- RIPHH Certificate in HACCP Principles
- RIPHH Diploma in Food Hygiene

- Open University Certificate: Managing Health Services B782
- REHIS Intermediate Food Hygiene Certificate
- Group Training Techniques
- The National Examination Board for Supervisory Management (NEBSM Certificate)
- SCOTVEC Module – Personnel Services
- SCOTVEC Module – Supervision and Management
- City and Guilds 706/1 706/2 in SCOTVEC Module equivalents
- NHS Education for Scotland – Leading for the Future (Cohort 11)

1.2 Professional Membership

- Full Member of Hospital Caterers Association, West of Scotland Branch

Scottish Hospitals Inquiry
Witness Statement of
Neil Murphy

This statement was produced by the process of sending the witness a questionnaire with an introduction followed by a series of questions and spaces for answers. The introduction, questions and answers are produced within the statement.

Personal Details and Professional Background

1. Name, qualifications, chronological professional history, specialism etc – please provide an up-to-date CV to assist with answering this question. Please provide details of your role working for IBI during the time IBI/ Nightingales was appointed as lead Consultant and Architect in respect of QEUH/RHC, providing details of when you started and left this role, your responsibilities.

A. Neil Murphy, Architectural Technician Diploma (Arch.Tech.Dip). Refer CV for chronological professional history, specialism etc. My role with IBI/Nightingale at this time was office principal this was a managerial/strategic role I managed the London office and was responsible for the success of the office, resources , delivery and budgeting for all the potential and secured projects. My role in relation to the project was Project Executive Director from 2009-2015. I was initially focused on securing the opportunity to bid/compete for the project and securing a contracting bidding partner (Multiplex). Once we qualified to become a bidder for the project, I agreed the fee/programme and our team structure (personnel/resources) for the bid/delivery on behalf of IBI with Multiplex. IBI legal department managed all contractual dialogue. With Multiplex and relevant consultants, I then led on the Nightingale/IBI prequalification responses with our bid support team.

Once prequalified, at competitive dialogue stage I led our teams bid presentations and interface with GGC NHS Trust and their technical advisors. My interface with the wider team at bid stage was with senior members of the wider consultant team WSP (Structure/Fire), ZBP (M&E), Gillespies (Landscape), Tribal (Healthcare Planning) , Multiplex and their major subcontractors. Detailed design engagement i.e. development of the detailed design outputs and scheduled design development interface with GGC NHS Trust and their technical advisors was delivered by several IBI team members Emma White/Graham Harris/Garry Howard/John Knape/Terry Sullivan/Neil Evans/Jonathan Hendrick/Rowland Phillips/Leanne Edwards/ Alex Van Den Berg/Matt Autinwood/Jamie Brewster and numerous other team members all of which were senior designers with extensive relevant healthcare experience. This team was supported by Associates, Architects, Technicians, Graphics teams etc. At preferred bidder stage (delivery stage) the Nightingale/IBI team structure was agreed with the senior management of the practice and all office leads across the practice. We utilised staff from Cardiff, Harwell, Rochdale, South Africa and London offices to deliver the project.

The names above (and many others) were involved in the design development/local authority dialogue (planning) /1:200/1:50 loaded drawing sign off and technical detailing of the project. These IBI staff were involved in the day to day dialogue and delivery process at a granular level. I/my role was not involved in the design or dialogue process at this level. At delivery stage the day to day management of the project was led by Emma White (with the agreed personnel (Directors/Associates/Architects/Technicians etc) with input from all the respective office leads and their assigned staff. As the project was large in scale and had a fast programme the reporting structure was led by the relevant office/clinical department designers reporting to Emma White. The project was led from the London office, and we would discuss progress, projected outputs, resource, programme issues etc at our Monthly/Bi Monthly/Weekly;(depending on workload or particular project/client requirements as they arose) management meetings. My role in the delivery phase was mainly associated

with internal (Nightingale/IBI – Budget/programme/resources/progress monitoring/presentations/updates/reporting etc) and external reporting/presentations etc. with Multiplex/GGC NHS Trust as well as interface with the local planning authority to obtain planning approval. I would attend Multiplex/GGC NHS Trust meetings as required to report and to ensure smooth delivery of the project. As noted above we had a large team in place to deliver this project, all parties had defined roles, my role was not associated with clinical or detailed design. I left Nightingale/IBI in 2018 and have had no contact/dealings with the practice or personnel since leaving the practice, I have had no access to documentation/records since leaving the practice.

2. What previous experience or training, if any, did and you have in respect of this role? How, if at all, did this experience serve you for the role in respect of QEUH/RHC?

A. I have worked in the architectural design/construction industry since 1987. In healthcare I worked with Nightingale Associates/Tribal/IBI carrying out various roles.1994–2002, Project lead, Director, London, 2002-2003, Executive Director, London, 2003–2014, Principal, London, 2014–2018, Associate Director IBI, Principal, London. Nightingale Associates specialised in healthcare design, Acute/Primary Care/Mental Health/ Private Healthcare. Throughout my career with Nightingale, Nightingale/Tribal and Nightingale/IBI I have worked at all stages of project design and delivery on several healthcare building typologies as can be seen from my CV. The healthcare projects on my CV vary in size, scale, constraints, complexity, specialism, contractual, staffing and delivery requirements.

I have worked alongside numerous Clients/NHS Trusts/Private Healthcare providers/Contractors/ Consultants and Local Authorities to successfully deliver healthcare environments in my career. As noted above project size/value has varied this has enabled me to work with/alongside small, medium and large scale teams enabling me to gain valuable knowledge and an understanding on how to identify and mitigate project delivery issues prior occurring and as they arise. My role Project Executive Director in respect of QEUH/RHC with

IBI/Nightingale was a managerial/strategic role, not at a granular design level and I was responsible for project programme delivery and budget, my previous experience (Refer CV) enabled me to have a good understanding of the skills required to secure, plan and deliver a project of this scale.

3. Please provide details of any other healthcare projects that you were involved in prior to the QUEH & RHC.

A. Please refer to the questions above and the attached CV.]

Review of the 'Works Information'

6. What information was provided to IBI to assist with the planning and costing of the project to enable Multiplex to prepare the Contractor's Proposals?

A. It is normal for the client team to issue a brief/Employers Requirements(ER`s),this would have been issued to Multiplex and in turn they would have issued it to IBI. Unfortunately, I cannot elaborate as to the exact content of the Client Brief issued by GGC NHS Trust at the time as I left IBI in 2018 and do not have access to any records.

7. The Inquiry understands that NHS GGC provided a list of guidance documents (e.g. SHTM/SHPN) that the design had to comply with, please confirm which elements of the design contained in the Contractor's Proposals, did not comply with guidance, and why and how any non-compliances were highlighted during the tender process and ITPD process?

A. As set out above I held a managerial/strategic role. The detailed process of design development / compliance review and sign off was carried out by the assigned members of the design and technical delivery team at structured user group meetings/workshops/breakout sessions with the GGC NHS Trust team and their advisors. The IBI design and technical delivery team was made up of several parties from an architectural perspective – this covered Initial design

concept, 1:200/1:50 design (room loading plans) technical detailing/scheduling and specification.

The architectural team numbered in excess of 80 people at its height. In terms of the wider design team the Structural, M&E, Landscape, Healthcare Planning teams also had a large number of staff assigned, I cannot recollect the detail of other consultants but some of the architectural delivery team leads were as set out above. Regarding guidance compliance, I was not involved in the physical user group design/sign off activity, consequently I was not privy to compliance/non-compliance dialogue and recording of same. I cannot recollect the contractual mechanism for identification of non compliance this would have been a Multiplex led action when/if required. As noted above, I left IBI in 2018 and do not have access to any records.

8. What consideration was given to the impact of any non-compliances on patient safety/infection prevent? At what point, if any, was advice sought from Infection Prevention and Control Staff? If advice was sought, from whom was it sought and what was the advice given?

A. In relation to this question, as set out in the responses above my role on the project for IBI was strategic. I was not involved in the structured user group/sign off dialogue process with GGC NHS and their advisors where dialogue on the question above may/may not have occurred.

9. Did IBI propose any changes to the exemplar/reference design? If so, please provide details of changes and why?

A. I have not been with IBI since 2018 and do not have access to records. I am not aware of any, if applicable this process was carried out by the assigned design and technical delivery team and would be a matter of record in the signed off design which would have been agreed in the structured user group process with GGC NHS Trust and their advisors.

10. The Inquiry is aware of the agreed ventilation derogation recorded in the M&E Clarification Log. **(Please refer to Bundle 16, Document No. 23, Page 1662)**

a) Describe IBI's role in respect of the proposals leading to the ventilation derogation.

A. In relation to the Q10 (a,b,c,d,e,f) I was not involved in this level of design granularity or detailed design discussions, meetings on specific items , I therefore cannot comment. Ventilation is an M&E item (not architectural), ZBP lead. Dialogue on this item could `I believe` have been held in the relevant user group meetings with GGC NHS Trust and their advisors.

b) What was the reason for the ventilation derogation?

A. Please refer to response to question 10 (a) above.

c) Who drafted the M&E Clarification Log and who was responsible for updating the log? Following updates to the log, please provide details of who the log would have been distributed to.

A. Please refer to response to question 10 (a) above.

d) What was the scope of the agreed ventilation derogation recorded in the M&E Clarification Log? In particular, was it restricted to general wards only? If so, (a) how is this interpretation evidenced within the documentation; and (b) where is the specification located for areas that required specialist ventilation and isolation rooms?

A. Please refer to response to question 10 (a) above.

e) At the time, what concerns, if any, did you have regarding the derogation?

A. Please refer to response to question 10 (a) above.

f) Did you raise any concerns, if so with whom?

A. Please refer to response to question 10 (a) above.

11. Refer to the ZBP Ventilation Strategy Paper dated on or around 15 December 2009? **(Please refer to Bundle 16, Document No. 21, Page 1657)**

a) What was your involvement in this document being instructed?

A. In relation to the Q11 (a,b,c,d,e,) I was not involved in this level of day to day design granularity, detailed design discussions or user group meetings on this item , I therefore cannot comment. Ventilation design and any strategy associated is an M&E design item (not architectural), ZBP lead. Dialogue and relevant documents on this item could `I believe` have been held in the relevant structured user group meetings with GGC NHS Trust and their advisors.

b) What was the intended purpose of this document?

A. Please refer to response to question 11 (a) above.

c) When did you first have sight of this document?

A. Please refer to response to question 11 (a) above.

d) Who was the document shared with?

A. Please refer to response to question11 (a) above.

e) What concerns if any did you have on reading this document? If so, did you escalate these concerns and to whom?

A. Please refer to response to question11 (a) above.

12. Are you aware of any risk assessments, whether in compliance with the standards in HAI Scribe or otherwise, that NHS GGC carried out in respect of the change in the ventilation strategy that appears to follow the ZBP Ventilation Strategy Paper dated 15 December 2009? **(Please refer to Bundle 16, Document No. 21, Page 1657)**

A. Please refer to the previous responses above in relation my role in the detailed design and delivery of the project. I am not aware of any risk assessments carried out by GGC NHS Trust.

13. Describe the advice sought, if any, or involvement, if any, of the GGC Infection Prevention and Control staff in respect of the change in the ventilation strategy that appears to follow the ZBP Ventilation Strategy Paper dated 15 December 2009.

A. Please refer to the previous responses above in relation my role in the detailed design and delivery of the project. Ventilation design and any strategy associated is an M&E design item (not architectural), ZBP lead. Dialogue and relevant documents on this item could `I believe` have been held in the relevant structured user group meetings with GGC NHS Trust this potentially included the GGC Infection Prevention and Control team and GGC technical advisors. As I was not involved in the process I cannot confirm what may or may not have occurred in relation to this item.

14. Who from the GGC Project Team and the NHS GGC Board were aware of the ventilation derogation?

A. The GGC NHS Trust team structure should I believe set out the roles and responsibilities of all relevant team members that could have been involved in this process.

15. How was the ventilation derogation communicated to the wider Project Team?

A. I was not involved in this level of day to day design granularity, detailed design discussions or user group meetings on this item, I therefore cannot comment.

16. What impact did the requirement for a BREEAM excellent rating have on IBI's proposed design in particular in respect of ventilation?

A. I was not involved in the detailed design process I cannot comment. Detailed dialogue and review in relation to ventilation/BREEAM impacts, if any, would `I believe` have been by M&E and the ZBP team with close dialogue with the appointed BREEAM lead for the project.

17. What impact did the energy usage target of no more than 80kg of CO2 per square metre have on IBI's proposed design?

A. I was not involved in the detailed design process I cannot comment. Detailed dialogue and review in relation to energy usage target of no more than 80kg of CO2 per square metre impacts, if any would `I believe` have been by M&E and the ZBP team with close dialogue with the appointed BREEAM lead for the project.

18. The Inquiry is aware that Chilled Beam Units were proposed by Multiplex and accepted for use through the QEUH / RHC. What was the basis for Multiplex proposing to use Chilled Beam Units? Is the use of Chilled Beam Units appropriate throughout hospitals? At the time, what concerns, if any, did you have regarding the use of Chilled Beam Units?

A. Please refer to the previous responses in relation to this question in relation to my role, I was not involved in the process outlined in the question above. Any proposals by ZBP in relation to detailed M&E design and any subsequent proposals by Multiplex/acceptance by GGC NHS Trust are matters for all parties to respond to. Chilled beam design is an M&E item not architectural.

19. Would it have been possible to achieve the sustainability requirements (BREEAM excellent rating and 80kg of CO2 per square meter) if Chilled Beams were not selected for use in the QEUH/RHC?

A. This is an M&E specialist design item and they are qualified to comment. ZBP led on this with close dialogue with the appointed BREEAM lead for the project to investigate viability of all potential design solutions. Detailed dialogue and review in relation to energy usage target of no more than 80kg of CO2 per square metre impacts, if any, would `I believe` have taken place at relevant meetings as required. As I was not involved in the detailed design process I cannot comment.

Full Business Case

20. Under ‘Services Systems’ confirmation was required “that the design fully complies with the requirements of the Employers Requirements, M&E appendices 1 to 6, all HTM’s, HBN’s, SHTM’s and current legislation”. The Inquiry is aware of several departures from SHTM 03-01 Guidance in relation to air change rates, pressure differentials and filtration requirements. There was also a variation to the primary extract arrangement for PPVL isolation rooms from that set out in SHPN 04 Supplement 01. Was IBI aware at the time of these non-compliances? If so, please confirm how IBI communicated these non-compliances to the NHS GGC Project Team.

A. I was not aware or involved in the user group/detailed design development process as outlined previously. Consequently, I did not/do not have knowledge related to the items listed re compliance. This is an M&E item, ZBP design lead.

21. Was the ventilation derogation noted in the M&E Clarification Log, recorded in the Full Business Case? Who was responsible for doing this? If you were aware that it had not been recorded in the Full Business Case please explain what action, if any, you took.

A. I was not involved in the user group/detailed design development process as outlined previously. As a consequence, I did not/do not have knowledge related to the items listed re derogations. This is an M&E item, ZBP design lead.

Design Role in the QEUH/RHC Project

22. Looking at Volume 10 of the Tender Submission (**Referred to under inquiry Bundle 43, Volume 3, Document 12, Page 493)** and in particular the 'Project Management Structure' on Page 5 and explained on Page 7, to what extent is it reasonable to assume from the tender documents that the proposal was that the work of the whole design team (including work on the ventilation system) was to be co-ordinated by and reported to Nightingale Associates as 'Architect and Lead Consultant' and that the intention was that Nightingale would work 'closely with the NSGH team without unnecessary interference from Brookfield'?

A. A lead consultant directs the work of the wider team. The respective consultants and design subcontractors on any project are responsible for their detailed design. The M&E consultant ZBP was qualified in the design of ventilation systems and associated compliance.

23. The Inquiry understands that drawings for ward layouts and Room Data Sheets (RDS) were approved through the Reviewable Design Data (RDD) process. Describe your role, if any, in the RDD process and User Groups.

A. My role was strategic only, I was involved in resourcing and programme related to this item. Detailed dialogue was carried out by the assigned design and technical delivery team, refer to previous answer re respective department leads and resource. I `believe` healthcare planners, M&E representatives were also present. I was not involved in the detailed user groups for this process. Generally the standard process is 1:200 layouts are generated for review/dialogue by the assigned architectural team/wider consultant team and signed off with GGC NHS Trust and their technical advisors. These would then be expanded to 1:50 level with room loading (RDS). Environmental design requirements are by the M&E consultant

24. Please confirm how the RDD process worked and the various stages that drawings and RDS went through before proceeding to construction.

A. I was not involved in this level of detail, dialogue on this item/ process was carried out by the assigned design and technical delivery team, refer above for an outline of a standard process.

25. How were members selected to be part of a user group?

A. From an architectural perspective healthcare and specific clinical department, knowledge, clinical planning knowledge, equipment loading knowledge as well as seniority. The team member selection process was carried out as set out in question 1 above. Generally, all relevant design team members would attend the user group. Other team members such as Healthcare planning/ M&E/Structure etc were chose by their Team leads. GGC NHS attendees were `I believe` selected by them related to department knowledge.]

26. Please confirm who attended the user groups meetings from IBI, Multiplex, the GGC Project Team, IPC, Estates and Clinical teams for the following areas:
Ward 4B – QEUH;
Ward 4C – QEUH;
Level 5 – QEUH;
Critical Care – QEUH;
Ward 2A & 2B – RHC;
PICU RHC – RHC;
All Isolation rooms

A. I am unable to answer this question as I was not involved at this granular level. All user group meetings should have been minuted with records of attendees.

27. How often were user group meetings scheduled to review design proposals and agree the design with the user groups?

A. I am unable to answer this question as I was not involved at this granular level. It is usual to allow 2 – 3 iterations of dialogue as a general rule of thumb. Depending on the complexity of a department, required adjacencies etc it may or may not involve more dialogue and meetings.

28. How were drawings approved to proceed to construction?

A. Through the common data environment - Aconex. Information was uploaded by all relevant team members and comments/status approval was applied as required.

29. The Inquiry understands that ADB codes were assigned to individual rooms - (**Refer to Bundle 43, Volume 1, Document 20, Page 73)** was provided to the Inquiry by IBI. Appendix one, lists Draft RDS Batches, can you please confirm what the following codes mean for each room

Batch 1 rooms – Adult's Inpatient and support (pg.5)

B0305A - Single-bed room: HBN 04-01

B0308A - Single-bed room: isolation: HBN 04-01

B1602B - Single bedroom, isolation: Critical care

G0507A - Lobby: ventilated (isolation suite)

G0510A - Lobby to isolation room - HBN 04-01

X0252A - Isolation treatment room: dialysis, 1 patient (pg.6)

Batch 2 Rooms – Children's inpatient and support (pg.7)

B1802C - Single bedroom: Children/young people, with relatives overnight stay

B1805C - Single bedroom, isolation: Children/young people, with relatives overnight stay

G0510B - Lobby to isolation room - HBN 04-01

A. As outlined previously I was not involved at this granular level on the project and was not involved in this process. I left IBI in 2018 and have no access to Activity Data Base (standards).

30. How were rooms that accommodated immunocompromised patients identified in the draft RDS batches? In particular, how were the rooms allocated for haemato-oncology identified in the draft RDS batches?

A. As outlined previously I was not involved at this granular level on the project and was not involved in this process/task. Dialogue on this item/ process was carried out by the assigned design and technical delivery team with relevant knowledge as set out in question 25.

31. How were different types of isolation rooms (e.g. Bone Marrow Transplant, those for infectious disease patients) identified in the draft RDS batches?

A. As outlined previously I was not involved at this granular level on the project and was not involved in this process/task. Dialogue on this item/ process was carried out by the assigned design and technical delivery team with relevant knowledge as set out in question 25.

32. How did the information contained in the document above progress to become the final RDS?

A. As outlined previously I was not involved at this granular level on the project and was not involved in this process/task. Dialogue on this item/ process was carried out by the assigned design and technical delivery team with relevant knowledge as set out in question 25.

33. How were RDS approved to proceed to construction?

A. As outlined previously I was not involved at this granular level on the project and was not involved in this process/task. Dialogue on this item/ process was carried out by the assigned design and technical delivery team with relevant knowledge as set out in question 25. I `believe` information was issued through the common data environment - Aconex. I `believe` Information was uploaded by all relevant team members and comments/status approval was applied by relevant parties as required.

34. Who was responsible for populating information/data into the RDS

A. As outlined previously I was not involved at this granular level on the project and was not involved in this process/task. Dialogue on this item/ process was carried out by the assigned design and technical delivery team with relevant knowledge as set out in question 25.

35. Who was responsible for populating environmental information/ data into the RDS?

A. As outlined previously I was not involved at this granular level on the project and was not involved in this process/task. I `believe` environmental data was led by the M&E consultant, ZBP. Dialogue on this item/ process was carried out by the assigned design and technical delivery team from the consultant team with relevant knowledge.]

36. Who was responsible for coordinating the RDS with the other consultants and the GGC Project Team and user groups?

A. As outlined previously I was not involved at this granular level on the project and was not involved in this process/task. Dialogue on this item/ process was carried out by the assigned design and technical delivery team with relevant knowledge as set out in question 25.

37. Who presented the environmental data at the user group meetings?

A. As outlined previously I was not involved at this granular level on the project and was not involved in this process/task. Dialogue on this item/ process was carried out by the assigned design and technical delivery team with relevant knowledge as set out in question. Environmental is an M&E item.

38. Who was responsible for reviewing the information in the RDS from the GGC Project Team and who approved signed off on the environmental data from the GGC Project Team for the following areas:
Ward 4B – QEUH;
Ward 4C – QEUH;
Level 5 – QEUH;
Critical Care – QEUH;
Ward 2A & 2B – RHC;
PICU RHC – RHC;
All Isolation rooms

A. As outlined previously I was not involved at this granular level on the project and was not involved in this process/task. Dialogue on this item/ process was carried out by the assigned design and technical delivery team with relevant knowledge as set out in question 25. Environmental is an M&E item.

39. How was the ventilation derogation communicated to users during the RDD process?

A. As outlined previously I was not involved at this granular level on the project and was not involved in this process/task. Dialogue on this item/ process was carried out by the assigned design and technical delivery team with relevant knowledge. Ventilation/environmental is an M&E item.

40. Please describe how the technical requirements (air change rates, pressure differentials and filter requirements) for each ward were managed and approved during the user group meetings and the RDD process, including your role and involvement.

A. As outlined previously I was not involved at this granular level on the project and was not involved in this process/task. Dialogue on this item/ process was carried out by the assigned design and technical delivery team with relevant knowledge. Ventilation/environmental is an M&E item.

41. Were any requests made by the User Groups during the RDD process that were refused? If so, please provide details.

A. As outlined previously I was not involved in the user groups or at this granular level on the project and was not involved in this process/task. Dialogue on this item/ process was carried out by the assigned design and technical delivery team with relevant knowledge as outlined in question 25 above.

42. Please confirm how long the RDD process lasted for and when designs for all wards was completed?

A. I am not sure as I was not involved at this detailed level. The CDE - Aconex should `I believe` have record of the comment/dialogue/sign off process.

43. Describe your involvement and understanding, if any, of the decision to remove carbon filters? What was the rationale behind this decision, who was involved and what advice, if any, was sought in reaching this decision?

A. I was not involved in at this level or decision making. This is not an architectural design item, design requirements in relation to this item are related to M&E design, ZBP.

44. Were any specialist design workshops required? If so, please provide details.

A. I am not sure, however as noted above my role was strategic and not at a granular design level. Workshops if they did occur would` I believe` have been minuted.

45. Were Value Engineering meetings/workshops held during the design phase? Please provide details of any agreed value engineering elements.

A. I do not have access to records as I left IBI in 2018, consequently I cannot confirm if meetings were held, given the time period since working on the project. Value engineering if it did occur would `I believe` have been managed and potentially minuted by Multiplex.

Ward 4B and 4C

46. The Inquiry understands that Ward 4B in the QEUH was originally intended to provide accommodation for Renal and Haemato-oncology patients. The 2009 NHS Clinical Output Specification for the Haemato-oncology ward stated:
"Please note the haemato-oncology ward area has a very specific function and a considerably higher than average requirement for additional engineering support/infrastructure. There should be no opening windows, no chilled beams. Space sealed and ventilated. Positive pressure to rest of the hospital and all highly filtered air >90%, probably best HEPA with adequate number of positive pressure sealed HEPA filtered side rooms for neutropenic patients as in the Beatson West of Scotland Cancer Centre." **(Please refer to Bundle 16, Document No.15, Page 1595)**

However, following a Change Order Request in July 2013 by Jonathan Best **(Please refer to Bundle 16, Document No.29, Page 1699)** it was confirmed that the Bone Marrow Transplant (BMT) service would transfer to Ward 4B in the QEUH and the haematology patients that were originally planned to accommodate Ward 4B would move to Ward 4C.

a) Please confirm how this change was communicated to Multiplex and IBI and how this change was captured in the revised design and specification documentation, following the Change Order Request.

A. In relation to all the questions below (a – o) I was not involved in the granular day to day design dialogue, design tasks or generation of design outputs on the clinical departments consequently I cannot answer the detailed questions being posed.

b) Please confirm if IBI highlighted any risks with the proposal to move the adult BMT Unit to Ward 4B, QEUH.

A. Refer to question E46 (a) above.

c) Please confirm if IBI highlighted any risks with the proposal to move the adult haemato-oncology ward from Ward 4B to Ward 4C?

A. Refer to question E46 (a) above.

d) Did IBI have any involvement in advising the GGC Project Team that the requirements set out in SHTM 03-01 relating to air change rates, pressure differentials and filtration requirements would not be achievable in Ward 4B at the QEUH?

A. Refer to question E46 (a) above.

e) Who approved the lower specification from the GGC Project Team and the Board for the adult BMT service?

A. Refer to question E46 (a) above.

f) Why were suspended ceilings proposed and installed in Ward 4B given that the original Clinical Output Specification (COS) referred to ‘space sealed’?

A. Refer to question E46 (a) above.

g) Please confirm who approved the reflected ceiling plans for this area from the GGC Project Team?

A. Refer to question E46 (a) above.

h) As construction progressed on site, please confirm if suspended ceilings were highlighted as non-compliant with the COS (works information).

A. Refer to question E46 (a) above.

i) Why was no back up Air Handling Unit (AHU) provided for Ward 4B? Who approved this decision? What strategy was agreed for PPM or equipment failure?

A. Refer to question E46 (a) above.

j) In respect of Ward 4C, what was the specification of this ward at the point of the Change Order? Did you understand that Ward 4C was to be used to house immunocompromised patients? If so, what was the justification from departing from SHTM guidance in respect of ventilation, pressure and filtration requirements and who signed this off?

A. Refer to question E46 (a) above.

k) Why were suspended ceilings proposed and installed in Ward 4C given that the original Clinical Output Specification (COS) referred to 'space sealed'?

A. Refer to question E46 (a) above.

l) Please confirm who approved the reflected ceiling plans for the adult haemato-oncology section, in ward 4C from the GGC Project Team?

A. Refer to question E46 (a) above.

m) As construction progressed on site, please confirm if suspended ceilings were highlighted as non-compliant with the COS (works information) for the adult haemato-oncology section, in ward 4C.

A. Refer to question E46 (a) above.

n) The COS for the adult haemato-oncology ward stated "no chilled beams" why were chilled beams installed?

A. Refer to question E46 (a) above.

o) What was your understanding of the requisite air change rate required in accordance with SHTM guidance in respect of Ward 4B and 4C, and was this the air change rate achieved? If not, why not and who signed this off? What risk assessments were considered in respect of this decision?

A. Refer to question E46 (a) above.

Ward 2A RHC

47. The Inquiry understands that Ward 2A is the paediatric-oncology Unit and includes the Teenage Cancer Trust and the paediatric Bone Marrow Transplant (BMT) Unit - the department is known as the Schiehallion Unit.

a) Confirm your understanding regarding the intended use and purpose of the Ward 2A, what guidance was considered in the design of these wards, what processes did IBI put in place to ensure guidance compliance?

A. In relation to all the questions below (a – d) I was not involved in the granular day to day design dialogue, design tasks or generation of design outputs on the clinical departments consequently I cannot answer the detailed questions being posed.

b) What changes, if any, were made to the design during construction? Please describe any such changes, describe the impact, if any, on guidance compliance, and describe the sign off process for any such changes and your involvement. Was external advice ever sought in respect of design changes?

A. Refer to question E47 (a) above.

c) Describe the IPC involvement in the design of Wards 2A and 2B, who was involved and who signed off the final design and when?

A. Refer to question E47 (a) above.

d) What concerns, if any, did you have regarding the final design specification of Wards 2A, and what action, if any, did you take in respect of these concerns?

A. Refer to question E47 (a) above.

48. Why were suspended ceilings installed in Ward 2A?

A. Refer to question E47 (a) above.

49. Why were Chilled Beam Units installed in Ward 2A?

A. Chilled beam design is an M&E design item. In relation to this question I was not involved in the granular day to day design dialogue, design tasks or generation of design outputs on the clinical departments consequently I cannot answer the detailed question being posed.

50. Please confirm who approved the reflected ceiling plans for Ward 2A from the GGC Project team?

A. I was not involved in the granular day to day design dialogue, design tasks or generation of design outputs on the clinical departments consequently I cannot answer the detailed question being posed.

51. As construction progressed on site, please confirm if any members of the GGC Project Team or Capita highlighted suspended ceilings as not suitable for use in a ward to accommodate immunocompromised patients?

A. I was not involved in the granular day to day design dialogue, design tasks or generation of design outputs on the clinical departments consequently I cannot answer the detailed question being posed.

52. What was your understanding of the requisite air change rate required in accordance with SHTM guidance in respect of Ward 2A and 2B, and was this the air change rate achieved? If not, why not and who signed this off? What risk assessments were considered in respect of this decision?

A. Ventilation and air change design is an M&E design item. In relation to this question I was not involved in the granular day to day design dialogue, design tasks or generation of design outputs on the clinical departments consequently I cannot answer the detailed question being posed.

Isolation Rooms

53. Describe how the number and location of the isolation rooms was agreed? Who approved the final number and locations in the QEUH and RHC?

A. As outlined previously I was not involved at this granular level on the project and was not involved in this process/task. Dialogue on this item/ process would `possibly` have been carried out in user group meetings with GGC NHS Trust and their technical advisors.

54. Who was responsible for producing the drawings and specification for isolation rooms; who approved these from the NHS GGC Project Team?

A. I do not have access to records as I left IBI in 2018. I was not involved in the granular day to day design dialogue, design tasks or generation of design outputs on the clinical departments consequently I cannot answer the detailed question being posed.

55. What concerns, if any, did you have regarding isolation rooms and compliance with SHTM/SHPN? What action, if any, did you take in respect of any such concerns?

A. As outlined previously I was not involved at this granular level on the project and was not involved in this process/task, consequently I cannot answer the detailed question being posed.

56. The Inquiry has reviewed RDS in excel format and note there is an entry under 'Design Notes' relating to Ward 2A isolation rooms, the entry states:
"WARNING NOTICE: This room is based on a theoretical design model; which has not been validated (see paragraph 1.8 of HBN 4 Supplement 1). Specialist advice should be sought on its design. The lamp repeat call from the bedroom is situated over the door outside the room."

a) Was this note entered on the RDS? If so, why and by whom?

A. In relation to all the questions below (a – c) I was not involved in the granular day to day design dialogue, design tasks or generation of design outputs on the clinical departments consequently I cannot answer the detailed questions being posed.

b) What specialist advice was sought relating to the design of these rooms?

A. Refer to question G56 (a) above.

c) What was the final agreed design for isolation rooms and who approved this?

A. Refer to question G56 (a) above.

57. Why was the main extract placed in the patient's bedroom and not the ensuite as outlined in SHPN 04 Supplement 01? Why was this change requested, who requested this change and who approved this from the NHS GGC Project Team?

A. This is an M&E design item, ZBP. I was not involved in the granular day to day design dialogue, design tasks or generation of design outputs on the clinical departments consequently I cannot answer the detailed questions being posed.

58. Was IBI aware of the exclusion in HBN 4 Supplement 1. that states:

"EXCLUSIONS

This supplement does not describe the specialist facilities required in infectious disease units or on wards where severely immuno-compromised patients are nursed. Guidance for these facilities will follow in a further supplement to HBN 4."

A. I was not involved in the granular day to day design dialogue, design tasks or generation of design outputs on the clinical departments consequently I cannot answer the detailed questions being posed.

59. Why were PPVL rooms proposed and built for Ward 2A BMT patients?

A. I was not involved in the granular day to day design dialogue, design tasks or generation of design outputs on the clinical departments consequently I cannot answer the detailed questions being posed.

Water and taps

60. Describe IBI involvement, if any, in respect of the decision to use Horne taps.

A. In relation to all the questions below (a – e) I was not involved in the granular day to day design dialogue, design tasks or generation of design outputs on the clinical departments consequently I cannot answer the detailed questions being posed.

a) What concerns, if any, did you have regarding the use of Horne taps?

A. Refer to question H60 above.

b) What risk assessments were carried out in respect of the use of Horne taps?

A. Refer to question H60 above.

c) Who was involved in, and who signed off the use of Horne taps?

A. Refer to question H60 above.

d) Did you attend the meeting regarding the use of Horne taps in 2014? If so, why was the decision made to proceed with Horne taps?

A. Refer to question H60 above.

e) Did the use of Horne Taps depend on thermal disinfection? If so why, if not, why not? What action, if any, was taken regarding this, and your involvement, if any.

A. Refer to question H60 above.

Commissioning and Validation

61. In respect of commissioning and validation, please confirm the following:

a) Describe your role in the lead up to commissioning. What action, if any, did you take to ensure that the wards within RHC and the QEUH met the guidance requirements of SHTM.

A. I was not involved in the granular day to day design dialogue, design tasks or generation of design outputs on the clinical departments consequently I cannot answer the detailed questions being posed.

b) Describe what commissioning of the water and ventilation system took place prior to handover, and your involvement, if any.

A. Not sure, I was not involved at this level. This is a Multiplex and M&E item `I believe.

c) Who was responsible for ensuring that commissioning of the water and ventilation system was carried out, and who signed off that it had been carried out?

A. Not sure, I was not involved at this level. This is a Multiplex and M&E item `I believe.

62. The Inquiry understands that NHS GGC decided to forgo the requirement to have an independent commissioning engineer. Who made this decision? What was the rationale was behind this decision? What was the impact, if any, of this decision? In hindsight, do you think that it was the correct decision?

A. I do not know who made the decision or the rationale of the GGC NHS Trust decision making on this matter. I was not/am not aware of the impact, if any of this decision as it pertains to M&E design.

63. Was the energy centre commissioned prior to NHS GGC taking occupation of QEUH? If so, describe what you know about the commissioning of the energy centre. Provide details of the intricacies in relation to its completion.

A. I am not sure, I was not involved at this level. From memory `I believe` the energy centre may have been commissioned prior to NHS GGC taking occupation of QEUH. This is a Multiplex/M&E design commissioning item.

A. Handover

64. Describe your role in the lead up to NHS GGC accepting handover.

A. I was liaising with the IBI team re deliverables for handover e.g O&M information, record drawings, finishes etc.

a) At the point of handover, how satisfied were you that all areas of QEUH/RHC accepted by NHS GGC, were designed to the intended specification and suitable for the intended patient cohort, meeting all the relevant guidance requirements?

A. I was not involved in the detailed day to day design development /and compliance dialogue, but I understood from the IBI team members assigned to the project that the user group and compliance sign off process with GGC NHS Trust utilising the CDE - Aconex had been adhered to and all records were in place.

b) How were you assured that the wards met the requirements of the specific patient cohorts?

A. I was not involved in the detailed day to day design development /and compliance dialogue, but I understood from the IBI team members assigned to the project that the user group and compliance sign off process with GGC NHS Trust utilising the CDE - Aconex had been adhered to and all records were in place.

c) Were any wards not handed over, or only partially handed over, please confirm. If so, why they were they held back?

A. Handover is a Multiplex and GGC NHS Trust item. I was not involved in the granular day to day design dialogue or handover discussions between the Multiplex and the Trust, consequently I cannot answer the detailed question being posed.

65. The Inquiry understands that no validation was carried out in respect of the ventilation system of QEUH/RHC prior to handover. When did IBI become aware of this? How did handover come to be accepted without the ventilation system being validated? Who was responsible for this and who signed off on this?

A. Handover is a Multiplex and GGC NHS Trust item. I was not involved in the granular day to day design dialogue or handover discussions between the Multiplex and the Trust, consequently I cannot answer the detailed question being posed.

Declaration

I believe that the facts stated in this witness statement are true. I understand that proceedings for contempt of court may be brought against anyone who makes, or causes to be made, a false statement in a document verified by a statement of truth without an honest belief in its truth.

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

Appendix A

A47851278 - Scottish Hospitals Inquiry - Hearing Commencing 19 August 2024 - Bundle 16 - Ventilation PPP (External Version)

A52449706 - Bundle 43 Volume 1- Procurement, Contract, Design & Construction, Miscellaneous Documents

A52706440 - Bundle 43 Volume 3 - Procurement, Contract, Design & Construction, Miscellaneous Documents

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

Appendix B

N/A

Appendix C

Education

Architectural Technician Diploma (Arch.Tech.Dip), Limerick Institute of Technology, Limerick, Ireland

Experience

2024 – Present

VINCI Regional Design Manager

2019 –2024

Carey Group Plc

Senior Design Manager.

Nightingale Associates/IBI Group UK Ltd
2014–2018, Associate Director IBI, Principal, London
2003–2014, Principal, London
2002-2003, Executive Director, London, UK
1994–2002, Project lead, Director, London, UK

1994
Watkins Gray Architects, Project Leader
1992-1993
FAS Computer aided Design Course (AutoCAD/3D), Dublin, Ireland
1990–1992
Fulton Gilmore Trotter Moss Architects, Australia, Technical Lead.
1988–1990
TP Bennett Architects, Technical Lead
1987–1988
Sydney Kay Firmin Architects, Technical lead

Representative Experience
Included below for ease of reference is an abridged list of some of my specific experiences on selected projects only.

Head of Design Management Careys
I held responsibility for developing and maintaining client, stakeholder and key strategic design consultants/sub-contractor's relationships, supporting bids and proposals, sourcing and appointing the appropriate resources to deliver projects, technical support, and oversight.
Recruited and developed a design management team to target D&B opportunities in an organisation that had traditionally only been involved in subcontracting contracts.

Stratford Waterfront East Bank Public Realm
Value: [redacted]
Scope: Public Realm Hard and soft landscaping

Site lead for Mayor of London's London Legacy Development Corporation (LLDC), working under Mace as construction manager, to deliver the design and construction of the hard and soft landscaping works at the Stratford Waterfront Culture and Education Development within the Queen Elizabeth Olympic Park. Set and managed design deliverables/roles/responsibilities, and coordinated the Careys designers, client team interfaces and all Careys CDP subcontractor deliverables and the quality of their outputs.

Audley Square Redevelopment - Residential
Value: [redacted]
Scope: Substructure, superstructure, waterproofing, public health

Site lead on a residential project for Caudwell Properties in Central London (Mayfair), eight storeys, plus a lower ground level and five levels of basement, to provide: 29 private residential units; a gym, several swimming pools and spa; a courtyard garden and terraces; and car and cycle parking.
Managed, set design deliverables/roles/responsibilities, and coordinated the Careys designers, client team interfaces and all Careys CDP subcontractor deliverables and outputs.
Design control processes, monitoring and liaison.

Tilbury Docks
Value: [redacted]
Scope: Silos/Infrastructure

Site lead on the reprovision of grain storage silos at Tilbury.

Careys functioned as lead contractor and had a major subcontractor (TH White) to design and deliver the conveyor system/systems to offload and transport the grain from the ships to storage and ultimate deliver to trucks for distribution across the UK. Managed, set design deliverables/roles/responsibilities, and coordinated the Careys designers, client team interfaces and all Careys CDP subcontractor deliverables and outputs

Protos Power Station EfW (Energy from Waste)
Value: [redacted]
Scope: Enabling works, Shell, and Core – Powered Generation Plant/Fit out by others under Careys lead.

I conducted a forensic review of the project and the appointed design team/subcontractors. Generated a report for the Board to highlight/demonstrate that the project should not progress at the point of review due to significant risks to the business. Subsequently the Board decided not to progress to contract on the project.

Architectural – Work Winning/Design/Technical Experience and Delivery

Nightingale Associates/IBI Group

I joined Nightingale Associates as a project lead and progressed through the business to eventually run the London office. IBI Group purchased Nightingale Associates.
In my final position with IBI Group I was responsible for the office,45 staff, budget, business development and profit generation.
Delivery of projects was managed by the Directors/Associates within the London office management structure.
My main focus was to raise our business profile, enhance our brand, secure workload pipeline and win work and grow our office.

Queen Elizabeth University Hospital and Royal Hospital for Children Glasgow, Scotland, £840m (IBI Group) 2009-2015

A new build 170,000m^2.

Led and managed the design team pre-qualification process, bid/interview design team communication and presentation strategy with the Greater Glasgow and Clyde NHS Trust clinical team and stakeholders. Led the interface with the Local Authority on Planning approval.

Design and Build (NEC Contract), Guaranteed Maximum Price. Agreed fee/appointment with Multiplex for deliverables and programme.

Project Executive Director responsible for reporting at senior project meetings and programme delivery of the project.

Produced strategy to deliver the project utilising a large team of staff based in various office locations in the UK and South Africa.

Royal Berkshire Hospital; Major Acute Services Consolidation, £85m (IBI Group) 1996-1980

Project lead and client liaison led tender process and contractor interviews on final ward block phase, tasks included management of the overall design team, clerk of work and project board/progress reporting.

Proposed and agreed innovative de risk strategy with client for the final phase. This proposal split the phase into 3 separate contracts: (Access and M&E service continuity, demolition, new build) successfully limiting the clients business continuity and financial risk.

Turkey Mental Health Hospitals Development, Turkey £45m (IBI Group) 2012-2013

Utilised industry contacts to align with a UK practice working for the Turkish Ministry of Health as advisors, secured a new market and fee revenue for the practice.

Worked with the Turkish Ministry of Health and Turkish contractors to design a series of PPP/PFI mental health hospitals covering Psychiatric and Forensic patient groups.

Project Director led and facilitated detailed client dialogue meetings in Turkey with the stakeholders.

University College London Hospital, Education/Training Facilities, £1.5m (IBI Group)1995-1996

Project Director led bid and secured project through a competitive bidding process, designed and led the refurbishment and fast track fit out of this facility within central London. JCT contract.

St Ann's Hospital Poole; Mental Health Services, – £14m - Phase 1 (IBI Group) 2008-2010

Upgrade of low secure patient facilities, providing single sex bedrooms with en-suite accommodation including Psychiatric Intensive Care Unit, complex site with a Grade II listed building dominating the site, strict planning restrictions requiring long discussions, negotiations with the planning Authorities.

Secured planning permission on this sensitive site on Sandbanks in Poole.

Project Director in charge of design and technical delivery, this included master planning, 1:500, 1:200 plans, and client sign off.

Teddington Memorial Hospital, Community Facility, – £2m (IBI Group) 2001-2002

Designed and presented a proposal to the client in a competitive bid process for a new modular community facility which included offices, community and staff spaces, external landscaping, and parking facilities.

Modular development installed on a severely restricted site in approximately 6 days (base units). Detailed dialogue required with client and modular unit supplier to achieve sign off prior to manufacture of the modular units.

Project director monitored and led team for construction information production.

University College London Hospital; Centre for Neuromuscular Disease, £2m (IBI Group) 1999-2000

Fast track traditional JCT contract refurbishment and fit out of a fully occupied building in central London to provide offices, gym, cafe, meeting, and conference facilities with audio visual links for teaching and training purposes.

Project lead and client liaison, led design, construction detailing and tender process including contractor interviews.
Managed the overall design team/information review and sign off process, site visits and project board/progress reporting**.**

Parcel Force Offices and Sorting Depot, – £4m (Watkins Gray International)1994

Sorting office/Industrial unit and administration building in Camden, London, JCT contract.
Detailed dialogue required with the client, various manufacturers, and subcontractors to design this highly specialised and bespoke environment. Steel portal frame/cladding utilised for the main sorting office hall/loading dock areas, traditional brick/block for the office spaces. Client protocols required gateway sign off of specific design items at various stages throughout the programme.
Role - technical detailing using AutoCAD , meeting attendance, answering statutory authority (planning/building control)/client and contractor queries.

Daily Echo Printworks and Offices, – £19m (Watkins Gray International)1994

New build newspaper print works/Industrial unit and administration wing, JCT contract.
Steel portal frame/cladding utilised for the main printworks hall.
Senior member of the technical team utilising Autocad to design and detail this technically challenging building. Responded to contractor, site, and sub-contractors' details on a daily basis, attended site and site meeting to record progress.

Bowls Club Extension/Refurbishment, Australia – $9m (Fulton Gilmore Trotter Moss)1990-1992

Design and technical delivery for a new bowls club on the Gold coast in Australia; Standard form of contract.

Technical lead, duties included site surveys, production of technical working drawings, site inspections, liaison with the design team, main, sub-contractors and specialist fit-out contractors. Steel portal frame/Industrial unit, cladding utilised for the lightweight extension to the existing structure.

Shopping Centre and Multi Screen Cinema, – £15m (TP Bennett) 1988-1990
New build complex in central Cardiff, Wales, JCT Contract.
Technical lead, responsible for production of design and technical construction drawings for specific areas of the project these included the main access concourse/arrival space including associated fixed and specialist furniture, car parks and lift cores, roof finishes (flat/pitched) and brickwork/iron work to external facades. Reviewed and commented on subcontractor drawings, attended site meetings, recorded progress and non-compliance on site.

Office Development, – £12m (Sidney Kaye Firmin) 1987-1988
Office refurbishment of an existing concrete framed building in Liverpool Street London.
JCT Contract. Technical lead, responsible for production of design and technical construction drawings for the project.
Due to the nature of the project a design/technical site presence was required to ensure the contractor met the challenging construction programme.

Office Development, – £7m (Sidney Kaye Firmin) 1987-1988
Technical lead, responsible for production of design and technical construction drawings for the project. JCT Contract.

All healthcare projects listed below were carried out from 1994-2019 with the same company, formerly Nightingale Associates, name changed due to purchase of company by IBI Group.

Orthopaedic Centre of Excellence - A competitive bid to secure the opportunity to design and deliver a new centre of excellence in central London for Johnson and

Johnson. Secured opportunity to bid through network of contacts. Won bid and the project is ongoing. Project Director. [redacted]

Peterborough City Hospital: Radiotherapy Day Treatment Unit, - A feasibility report and design solution to meet increasing patient demand in radiotherapy services including two new Linear accelerator bunkers, consultation rooms, larger waiting area, independent entrance for weekend services. The new Unit doubled the exisitng patient capacity. Project Director. [redacted]

Glasgow Institute of Neurological Science (INS); - **Entrance Redevelopment, Scotland -** The modernisation and expansion of the entrance to a historic neuroscience building, including a double height reception, waiting area and café on the ground floor along with the refurbishment of the existing lift lobby and adjacent rooms. Project Director. [redacted]

Spire Healthcare, Private London Hospital – Secured commission. Worked closely with a healthcare planner, project manager and the client to produce a brief for a future proofed specialist hospital. On confirmation of brief produced feasibility and test fit build options for the site in central London. Engaged with a developer who owned the site. Project Director£ confidential

Transport for London (TFL); Putney Bridge Taxis, – Developed a brief with the client for a potential refurbishment, upgrade and expansion of an independent taxi repair business in an existing property. Preparation and presentation of final feasibility option schemes to allow commercial review for lease renewal. Project Director. £ confidential

Mullingar Hospital (HSE); Theatre Upgrade, County Westmeath, Ireland – Utilised network of contacts to collaborate with Architects in Ireland to bid successfully for the HSE framework. The collaboration was successful, and we won the opportunity to design a new extension, refurbish and upgrade theatres to

optimise new clinical flows while improving the existing flows in clinical, public, private and FM terms. Project Director. [redacted].

Chase Farm Hospital, London; Major Redevelopment, – Major redevelopment of hospital on existing site part funded by land sale. Provides new-build urgent care centre, wards, surgical unit incorporating a four table 'Barn' operating theatre, outpatient ambulatory care centre, imaging department, endoscopy unit, therapies department, pharmacy, pathology facilities, and administrative, FM and ancillary facilities together with energy centre and multi-storey car park, all linked to retained facilities (ProCure21+). Principal [redacted]

St Bartholomew's Hospital; Private Patient Unit Feasibility Study, London - New private hospital feasibility study. The design concept was spread over three existing buildings RSQ, museum and pathology. Linked at basement level this provided 5,600m^2 of accommodation designed to enhance the brand while creating cohesive units for Spire Healthcare. Scheme content included in-patient accommodation, operating theatres including hybrid theatres, ICU, physiotherapy, x-ray, MRI, CT, pharmacy as well as offices and support spaces. Project Director [redacted]

University College London Hospital (UCLH); Cancer Clinic, – Delivery of clinical fit out information for this new build outpatient treatment facility. Due to site constraints and value engineering standard rooms relative to HBN requirements were in some cases not achievable. Ensured through liaison/dialogue and testing that all key clinical drivers, CDM+HS issues were addressed in construction and legacy terms. Project Director. [redacted]

University College London Hospital (UCLH); Brain Tumour Centre, - This very complex scheme involved the strip-out, refurbishment and fit-out of a self-contained ground floor wing within the National Hospital for Neurology and Neurosurgery to provide a new 12-bed inpatient surgical ward. Responsible for achieving the scope of

works set out in the contractual agreement and accountable for the quality of output and client sign off. Project Director [redacted]

University College London Hospital: Centre for Neuromuscular Disease, – A carefully detailed design to modernise a traditional building and create a contemporary, clean and modern building that maximises natural light and creates a strong brand. Facilities include research offices, an outpatient gym, examination rooms and a fully equipped seminar room with AV-connected microscope, TV aerial and PC. A staff rest area was designed to mimic a street café, supporting and encouraging informal discussion on research. BBH Interior Design award winner. Project Director [redacted]

University College London Hospital (UCLH); Education and Training Facilities, - The existing hospital has a requirement to train staff in 'cutting' edge medical techniques and technologies as well as selling their skills worldwide via modern telecommunications. Facilities included conference facilities linked back to the working hospital, fully functioning mock training theatres, and keyhole surgery demonstration suites. Secured project through a competitive process, designed and led the refurbishment of this facility within central London. Project Director [redacted].

Indo - UK Institute of Health (IUIH); - Master planning and liaison with client, clinical team, industry partners and contractors for an innovative 'roll out' of several hospitals across India.

Project Director £ confidential

East London NHS Trust: Phase 3 Ward Development, – Project lead on a feasibility study to review an existing mental health campus on a secure and medium secure campus. Key driver was cost and utilisation of as much of the existing estate as possible. Several user/client meetings were held to ensure we maximised future opportunity and flexibility on the site. Project lead [redacted].

Great Ormond Street Hospital, Fast Flow Radiology Unit, – Housed in the Variety Club building, this refurbishment and part new build of an existing basement area accommodates a new Research MRI together with sedation and anesthetics area

and supporting administration space. Key features included: a safe and protected external roof garden area for children's play - directly adjacent to the main waiting area**.** Technical lead/site lead [redacted].

Peterborough City Hospital PFI, - provides a full range of acute adult services, Adult hospital, Accident and Emergency, Women's and Children Centre, Mental Health Hospital, Urgent Care Centre and Energy Centre. Scheme secured through a competitive bid process. Project Director. [redacted]

Teddington Memorial Hospital; Community Facility, – A new l-shaped community facility including offices, external landscaping, and parking facilities. Modular development installed on a severely restricted site in approximately 6 days (base units). Facilities included offices, dental suite, consultation exam rooms as well as community and staff spaces. The scheme was part of the development control plan we generated for the client. (ProCure21). Project Director. [redacted]

Homerton Hospital; Workshop & Stores, - Estates facilities and service yard for Homerton Hospital, retention of existing street frontage to create offices, storage, and workshop space for the hospital's estates team. Technical Lead. [redacted]

Birmingham New Hospitals PFI, – Relocation of the Queen Elizabeth Psychiatric Hospital, Birmingham to a new facility housed in three new buildings across two sites. Project Director and Principal designing this award-winning scheme. [redacted]. Led the bid and client interface through the competitive bidding process, won the project. Scheme comprised of 3 projects:

1.**National Centre for Mental Health; Zinnia Centre, Showell Green,** – A new build, low secure community-based adult acute locality service on a residential site. Includes inpatient and outpatient care (2 x 16-bed wards). [redacted]

2.**National Centre for Mental Health; Oleaster, South Locality,** – New build low-secure adult acute (4 x 16 beds), 10-bed psychiatric intensive care unit (PICU), electro convulsive therapy and community teams. [redacted]

3.**National Centre for Mental Health; Barberry, Specialty Services,** – New build accommodation for specialist inpatient, day care and outpatient services. Includes facilities for Deaf (12-bed), Mother and Baby (8-bed), Eating Disorders (10-bed) and Neuropsychiatry. Also, university and lecturing amenities. [redacted]

Bracton Clinic; Acute Mental Health Development, – Mental health scheme Outline Business Case, Full Business Case and Development Control Plan for the extension of existing medium secure unit beds, and clinical support facilities. This followed with the delivery of an intensive care unit, leisure & social centre, organic farm, new main entrance and administration for workshops, a drugs misuse ward, and therapies department. Project technical lead responsible for design and liaison with the client, client's team, and contractor. [redacted]

Horton Mental Health Centre, – Three phased refurbishment of Grade 2 listed buildings at the St Bernard's Wing adjacent to Ealing Hospital to deliver a modern non institutional healing environment, 98-beds, patient bank, offices, gymnasium, bespoke secure external balcony's, patient garden, clinical support, and therapy rooms. Project director, lead designer and production of construction package information. [redacted]

Great Ormond Street Hospital, MRI Unit – A new Magnetic Resonance Imaging Suite that was designed to meet the challenging technical requirements of a severely constrained area of the hospital. Project lead, lead designer and production of construction package information. [redacted]

East London Personality Disorder Unit (PDU) – Medium secure mental health unit. Pathfinder scheme to deliver the first PDU in the UK on a restricted and overlooked site. Innovative use of bespoke windows and enhanced air flow for the building has created a non-institutional therapeutic environment that benefits the

patient, staff and visitors within this award-winning scheme. Offices, 20 beds, support facilities, seclusion suite, day facilities, legal suite. Gold Green Apple Award for enhancing our built environment & architectural heritage (ProCure21 Framework). Project lead, lead designer and production of construction package information. [redacted]

Springfield University Hospital; Facility Upgrade, – Conversation and refurbishment of an existing ward into a community mental health team base and an existing building into a medium secure unit. Project lead, lead designer and production of construction package information. [redacted]

St Ann's Hospital Poole; Mental Health Services, – Upgrade of low secure patient facilities, providing single sex bedrooms with en-suite accommodation including Psychiatric Intensive Care Unit. Provides patient privacy and dignity, whilst maximising the therapeutic benefits of the abundant natural views and light to create an up-lifting environment for recovery. Very complex site with Grade II listed buildings dominating the site, strict planning restrictions requiring long discussions, negotiations with the planning authorities. Achieved BREEAM Excellent. Project Director in charge of delivery, including master planning, 1:500, 1:200 plans and elevations including production of construction package information. [redacted]

Colchester Primary Care Centre – This centre combines primary care clinical services from around Colchester into an identifiable building with modern infrastructure (Local Improvement Finance Trust). Technical lead in the design and delivery of the scheme**.** [redacted]

SLAM Project: Community Adult/ Adolescent Mental Health Services, - Successful bid, sign off and planning for the proposed schemes across three sites. 25 Beds, office, clinical support facilities, visitors' suites, interview suites, observation suites and community facilities for South London and Maudsley NHS Trust (ProCure21 Framework). Project leader and lead designer. [redacted]

Caversham Health Centre – Scheme comprises of open plan offices, GP offices, consultancy exam rooms and an outpatient department. Technical lead on this Design and Build scheme working closely with the contractor and end client. [redacted]
Homerton Hospital; DGUM Clinic – Design of a new sexual health clinic as part of an acute hospital service. Technical lead. [redacted]

Education
Daubeney School Children's Centre, – Single storey sure start children's centre which was developed via intensive consultation techniques. Project Director responsible for project design and delivery. [redacted]

Parlaunt Park School, Slough, – Refurbishment and extension of existing school facilities to increase capacity from two entry classes (2FE) to three entry classes (3FE). Includes a newly built nursery block, infant school, dining hall, entrance and classrooms. Improvements to the quality of external space for play and learning have been integrated, particularly for the Foundation Stage children. Project Director. [redacted]

Hadlow College; Animal Care Facility, – Masterplan followed by the delivery of the first phase of development; the provision of a sustainable Animal Care facility and the refurbishment of a listed building for the largest provider of land-based education within Kent. Director - responsible for project programming and monitoring of quality of output. [redacted]

Tree House National Centre for Autism Education, London, UK – Utilised industry contacts to secure contractor bidding partner for role as Executive Architect to complete the design and build of the new build Treehouse National Centre for Autism and Training from Stage D+ onwards. Attended interview and won bid. Project Director and technical lead. [redacted]

University College London Hospital; Dental School Relocation, – Detailed design of a like for like replacement on the existing dental school facilities on a new

central London site as an enabling contract for a major project on the existing service site. Project Director [redacted]

Medical Research Council Framework – Member of the team that successfully bid for an opportunity to be a member of the architecture framework.

Guy's & St. Thomas' Hospital; Stem Cell Catapult, – Feasibility study for the design and refurbishment of an existing floor plate in an occupied tower in Guy's Hospital. Flexible laboratory environment. Director. [redacted]

Commercial

Daily Echo printworks, – Printworks and administration wing, member of the technical team. [redacted]

Parcel Force Depot, – Sorting office and administration building in Camden, London. Project lead. [redacted]

Sorting Office Extension and Refurbishment, – Major works on Mount Pleasant Royal Mail site, technical lead on a live functioning site; [redacted]

Shopping Centre and Multi Screen Cinema, – New build complex in central Cardiff, Wales. Technical lead and coordination. [redacted]

Office Development, – Office Development, Skylines II, Docklands. Technical lead and coordination. [redacted]

Office Development – Office refurbishment of an existing concrete framed building. Technical lead and coordination. [redacted]

Leisure

Bowls Club Extension and Refurbishment, Australia – Design and technical delivery for a new bowls club on the Gold coast in Australia; [redacted].

Scottish Hospitals Inquiry
Witness Statement of
Susan Logan

This statement was produced by the process of sending the witness a questionnaire with an introduction followed by a series of questions and spaces for answers. The introduction, questions and answers are produced within the statement.

Personal Details and Professional Background

1. Provide your name, qualifications, chronological professional history, specialism etc. Please provide an up-to-date CV to assist with answering this question.

A. I have attached a **current CV.**

Design and Role in the QEUH/RHC Project

2. The Inquiry understands that your company Ecoteric was appointed as an energy and sustainability advisor to NHS GGC during the QEUH/RHC design phase and you were the Building Research Establishment Environmental Assessment Method ('BREEAM') advisor to NHS GGC for the QEUH/RHC from around 2008 to 2010. Describe in detail this role, including dates of instruction, how you came to be instructed, responsibilities, whether anyone else was employed by your company, persons reported to at NHS GGC and persons worked with and/or interacted with?

A. I was appointed initially in early 2008 by the Carbon Trust, reporting to Renate Powell, to provide low carbon design advice to NHS GGC. "order1" Earlier advice had been given by another Carbon Trust Consultant but they were felt not be compatible with the NHSGGC team. At this stage the people I met were Peter Moir : NHS Greater Glasgow & Clyde Major Projects / PPP Projects Manager. At this stage largely generic low carbon design advice was

given. I then assisted in the evaluation of adviser consultants, providing a scoring matrix which fed into the main scoring process, built around the understanding and experience in sustainability and energy. Also at this stage I assisted in the evaluation of the project managers proposals. Currie and Brown were subsequently appointed. Later that year, I received a further order "order 2" from the Carbon Trust, around September 2008 I delivered a workshop to David Hall : Currie and Brown Project Management, Allan McGill: Wallace Whittle Project Director Mechanical and Electrical Engineers, Alan Seabourne: NHS Greater Glasgow & Clyde, Project Director for the New South Glasgow Hospital, Richard Forbes: HLM Architects, Environmental Engineer, Robert Menzies: BMJ, Shadow Architect, Children's Hospital. The scope and outcome of this work is best **summarised in document - Bundle 43 Volume 3, Document 7, Page 476 –** where energy issues, procurement and process were all discussed in detail and recommendations made. This report includes key interactions and record of the discussions held. By late 2008, the initial PQQs were being prepared and I assisted in the selection criteria. Work during this period to 14/10/2008 is **summarised in document - Bundle 43, Volume 3, Document 9, Page 484.** During 2009, I had a further order "order 3" and I worked with the team on the sustainability aspects of the Employer's Requirements. I then periodically attended competitive dialogue sessions with prospective shortlisted contractors and assisted in part of the scoring as it concerned energy and sustainability. This is order 3 work. The final order pre contract

"order 4" from the Carbon Trust in this initial phase was undertaken through to 2010. By this time Brookfield Europe had been appointed and work was being undertaken to establish a management process for the low carbon design aspects. This is **summarised along with interactions in report at Bundle 43, Volume 3, Document 17, Page 1039.** In 2009 I was appointed by NHS GGC to undertake a BREEAM assessment of the public health laboratories. This took place between 2009 and final certificate received in 2012. From 2010 through to 2015, my work concerned monitoring of the energy and low carbon aspects of the main hospital project through regular meetings and keeping of a low carbon tracker. I undertook further self-contained pieces of work, some Carbon Trust, some NHSGGC funded through to 2015 which are described in following sections.

3. For what period was your work funded by the Carbon Trust? At what point did the funding arrangements change and how?

A. My energy and sustainability work was funded by the Carbon Trust from 2008 until the end of the financial year 2012- 2013, with some later funding concerning metering strategies. The Laboratories BREEAM assessment was funded by NHSGGC.I have on record as detailed above PO numbers and annual reports to the Carbon Trust. However, more involvement and support was required than was funded by the Carbon Trust and from 2008-2011 I was appointed to attend meetings and assist in documentation which overlaps with the Carbon Trust work. The additional funding allowed a higher level of involvement than would otherwise have been possible. From March 2013 onwards the funding for support was funded by NHS GGC although by this time construction was well underway, design mostly complete and I continued in a monitoring role through to February 2015 . In March 2013, I was further appointed by the Carbon Trust to assist in implementation of the agreed metering strategy for the Laboratories which was not satisfactory at the time. The laboratories had been handed over in March 2012 however the operational staff were not able to monitor the energy use satisfactorily. This work continued through to March 2014. Beyond this date, I had some sporadic involvement largely concerning the metering and funded by NHS GGC.

4. The Inquiry understands that your work involved use of the BREEAM tool. What is the BREEAM tool and what is it used to assess?

A. Firstly it is necessary to clarify my role. I was advisor to NHSGGC for the main hospitals but I was not the BREEAM Assessor. The BREEAM assessor was appointed by Brookfield and WSP (a national consulting company)undertook this duty. I was appointed by NHS GGC to undertake the BREEAM assessment of the Public Health Laboratories only. I did monitor the progress of WSP's work however information available was limited. A BREEAM assessment is a holistic sustainability assessment methodology which measures and rates a building and project against a set of criteria. It is evidence based so that for each criteria it is necessary for the project teams to present robust evidence for example a drawing, specification, purchase invoice and the like to demonstrate that the criteria has been met. It is

assessed at detailed design stage at which point an interim certificate is issued, but a BREEAM rating cannot be claimed until post construction stage when it is evident that the project has implemented the required measures. Criteria met leads to credits being awarded. Most credits are optional, but the project must achieve enough and a few mandatory credits to attain the required rating. The BREEAM tool measures good management, site processes, good practice documentation and commissioning. It further measure health and wellbeing such as visual comfort, air quality, thermal comfort, acoustic standards and other issues relating to the internal environment. It considers how efficient a building is in terms of energy and carbon emissions. Water efficiency is measured, as is availability of sustainable transport measures. Sustainable and efficient material use forms another section, along with good practice avoidance and management of waste. A further section looks at the ecology outcomes for the site and the final section considers pollution in terms of emissions, light, noise and water. As can be seen this is a broad range of issues and particular credits can and must be balanced against others and tailored to the requirements of the project.

5. During the QEUH/RHC design phase, in 2008, what impact did the BREEAM rating have on the funding allocated to new build hospital projects with a projected cost of over 2 million pounds?

A. At that point, BREEAM for healthcare was relatively new and a self-assessed version called NEAT had been in use in the NHS. It can be seen from early reports that there was some debate as to whether BREEAM or NEAT should be used but by the time of tender the decision had been taken to use BREEAM. By July 2008 the national NHS administration had made a commitment to a BREEAM Excellent to be a requirement of passing the OBC approval. I have found a BREEAM memo from June 2013 **(Bundle 43, Volume 3, Document 41, Page 1510)** which confirms this and states that “in Scotland, project specific requirements in relation to the BREEAM assessment will be dealt with by Health Facilities Scotland as part of the NHS Scotland Design Assessment Process”

6. During the QEUH/RHC design phase, in 2008, how many credits would an organisation have to achieve a BREEAM 'excellent' rating?

A. Credits are not equal in value owing to the BREEAM weighting system, but a score of over 70% is required along with certain mandatory credits which are provided in the BREEAM Healthcare manual 2008 section 2 scoring and rating.

7. The Inquiry understands that at a Project Steering Group meeting on 21 July 2010, **(please refer to Bundle 40, Document 165, Page 792 at page 6)** that Alan Seabourne told the Group that you had advised that achieving an Excellent BREEAM rating was unlikely and a 'Very good' level should have been aimed for at that stage instead. What made you think an excellent BREEAM rating was unlikely?

A. It is not very clear from the context, but I can confirm that my comment related to the laboratories BREEAM assessment not the main hospitals. As detailed in preceding sections, I was not the assessor for the main hospitals. At the time of that meeting we were having some difficulty in collecting the required amount and quality of evidence. This is not uncommon in BREEAM assessments, and we did eventually get a BREEAM Excellent for the laboratories

8. The BREEAM rating (percentage score) changed during the development of the project. Please set out the various ratings achieved until sign off?

A. I assume this relates to the main hospitals Unfortunately, I cannot contribute much here as I was not the assessor. I undertook a predicted score based on the exemplar design which was not verified by evidence – this is commonly known as a pre assessment and is used to give some idea of potential credits. This was 70.5% in 23/6/09. At this point I was advising on issues which were common to the site and both the laboratory and main hospitals assessments such as transport and pedestrian safety, ecology, flood risk etc. I attended a meeting on 22/7/10 with WSP present to try to ensure whole site issues had a common approach. I have searched for BREEAM progress updates from Brookfield but can recall that these were not generally forthcoming and the

process was not transparent to me at the time. I can recall requesting updates on several occasions. I have found one update which is in a later section.

9. Were there any areas of the hospital that were not included in the target for a BREEAM excellent rating?

A. No, however BREEAM Healthcare recognises clinical needs and generally avoids applying credits to areas where the clinical need would take priority. For example, the credit for water efficiency in clinical areas is not assessed. The credit for daylighting is not assessed in clinical areas with controlled environmental conditions, the credit for natural ventilation has a long list of exceptions and caveats. There are no credits to the best of my understanding which would ever contradict or override a health technical memorandum. Credits such as Hea 12 microbial contamination requires compliance with HTM 04-01The control of Legionella, hygiene, “safe” hot water, cold water and drinking water systems” Refer to credits Hea 07 and Hea 12 in the **Bundle 43, Volume 3, Document 4, Page 36.**

10. Who was the potential BREEAM rating sent to?

A. I am not sure. I have searched my records and found one record issued 14/10/14 in an email from Darren Pike of BM which is at the post construction assessment stage and which gave a score of 12.03% against a targeted 71.97%

11. What was the potential BREEAM rating then used for?

A. It would presumably have been used to report to NHS and HFS, but I am not entirely sure. It was a contract condition for Brookfield.

12. What involvement was there from the Carbon Trust following calculation of the rating, if any? Was there any correspondence with them?

A. The Carbon Trust were not involved in BREEAM. As described above, BREEAM is a broad based sustainability measure whereas the remit of the Carbon Trust is to reduce carbon emissions.

13. Was a whole site energy strategy created for this project in line with HTM guidance “making energy work in healthcare.”

A. I produced a whole site energy strategy in 2011 as a separate report for the Carbon Trust looking at the potential to either decentralise or to achieve a district heating solution. We did work with HTM 07 02 as far as possible.

14. Who made the decision to ventilation seal the building?

A. The only answer I can confidently give is NHSGGC. I was not party to the discussions that took place on that decision. I believe that it went to a number of working groups including infection control during the period that the decision was made. In February 2009, according to meeting notes, we were still having discussions about using the atria as a potential natural ventilation route. By tender stage a few months later, the requirement for natural ventilation solutions had been dropped.

15. Why was the decision taken to seal the building?

A. Again I do not have an evidenced answer to this question. When I first became involved, I was given a copy of a Design Solution report dated July 2007 produced by the NSG Technical Advisers. Section 5.6.6 of this report discusses the air quality and concludes as per the below that there is a risk of odour. I recall being told that perceived risk voiced by infection control managers was a major factor in the decision but do not have documentation to substantiate this. I am unaware of any other factors that may have influenced this decision. At the time, my recollection was that infection control was a major focus following outbreaks of hospital acquired infections such as MRSA. There was provision made for carbon filtration to the air handling units in terms of space allowed for retrofit if necessary but none were fitted initially as this would have been costly and increased fan power as well as a future maintenance burden.

16. The Inquiry understands you were opposed to the building being ventilation sealed. Why?

A. The reasons are as per my report from 2008 an extract follows:- The decision to seal the building completely needs to be reviewed for the following reasons:

a. The inclusion of 100% single rooms means that issues of cross infection are much reduced and that natural ventilation is feasible.

b. There is a perceived improvement in the odour from the adjacent sewage works and the possibility that improvements will eradicate the problem.

c. Once the building is sealed, there is no possibility of being able to revert to natural ventilation for many years and without major changes. However, if the decision is made to provide openable windows, even if backed up by mechanical ventilation, there is at least the possibility of reverting to natural ventilation or using it to offset high summertime temperatures.

d. Openable windows allow for change of use and have a psychological advantage, giving occupants a sense of control over their environment. This promotes healing and staff satisfaction. I continued to hope that at least partial natural ventilation would be possible to non-patient and circulation spaces however eventually, this was not pursued. If the odour was intermittent, then it would have been possible to close windows on bad days but open them when odour was not present.

17. How did the decision (to seal the building) have an impact upon the energy targets? Is achieving a BREEAM excellent rating difficult in a fully sealed mechanically ventilated building as large as the QEUH and RHC?

A. The decision to seal the building generally had a negative effect on energy targets as all areas had to rely wholly on mechanical ventilation increasing fan energy. Furthermore whilst free cooling was used as much as possible, with multizonal ventilation, it is inevitable that there is some need for top up heating and cooling (in this case through use of chilled beams). In addition, the perceived lack of control has a psychological effect often leading occupants to demand lower temperatures in summer than would be the case if they had access to an openable window. The decision to seal the building is in my opinion fairly neutral in terms of the BREEAM rating. The credits affected are Ene 01 “reduction of carbon emissions” and Hea 07 “Potential For Natural Ventilation”. Hea 07 is worth 0.83% towards the rating. Ene 01 if ALL credits are gained is 10.95%, but that is extremely difficult to achieve in any acute hospital. The development achieved 4.38% for Ene 01, which is the required 6 credits for the excellent rating. If it had openable windows, it is difficult to be

precise on the benefit in energy terms but maybe an extra couple of credits for Ene 01 may have been possible. Potentially 1.46%. Collectively it can be seen that the impact of the decision on BREEAM was possibly 2.29%, not enough to radically affect the rating one way or another.

18. It seems clear that a challenge was faced between design complexities, complying with guidance (i.e. ventilation) and balancing energy along with all other performance requirements. How do you feel the QEUH/RHC project balanced those conflicting requirements?

A. In the discussions I was party to, the overriding factor in any decision was compliance. We spent much time considering the balance between the HTM 07-02 which recommended energy saving measures and the ventilation standard HTM 03-01. The default position was always compliance. Given that the decision had been made to seal the building, the focus changed to effective heat recovery. All air in this hospital was full fresh air, there was no recirculation as is normal for healthcare premises. A new HTM 03-01 came out during early design stage. It allowed for more efficient heat recovery than had been the case in earlier guidance (HTM 2025). There was much debate about thermal wheels versus run around coils as the former are much more efficient than the latter and thermal wheels were eventually included in the specification. Refer to section 4.146 and 4.147 of HTM 03 01 Overall, my impression was that both the NHS Technical adviser team and the Brookfield design team were committed to a balanced solution which allowed for effective ventilation, whilst attempting to manage energy as efficiently as possible.

19. Did you any experience any resistance from the design team to suggested measures leading to low carbon design. If so, who was resisting this, and what was the resistance in relation to?

A. I have documented resistance in a report to the Carbon Trust **Bundle 43, Volume 3, Document 9, Page 484** in 9/2/09. This was from the M&E technical advisers Wallace Whittle. It was documented in this report as -

6. There appears to be significant resistance from the Building Services Engineers, Wallace Whittle to the suggested measures leading to low carbon

design. As it is not possible for the Carbon Trust to be represented at client and design team meetings, this is having an adverse effect on the progress to the desired outcome.

7. Although it is possible to require some of these issues to be evaluated by the bidder, the economics of the bid process, risk to bidders and the affordability constraints mean that if these issues have not been tested, proved to be realistic and viable and firmly embedded in the exemplar design, they will not occur in the bid design. There is a very significant body of evidence to justify this – many poorly performing design build projects in energy terms.

8. The priorities for this site and development are assessed to be as highlighted on the attached tracker.

20. Did you have any involvement at the design stage with regards to providing advice with appropriate specifications for the various rooms/wards/theatres within the QEUH and RHC?

A. Not directly. I did advise that a coherent set of ADB sheets with master conditions set by the technical adviser team were advantageous as I had seen on previous projects that user group demands had led to temperature and humidity specifications which were outside NHS guidance and had led to over engineering and inefficiency. This is documented in a report to the Carbon Trust **Bundle 43, Volume 3, Document 9, Page 484** in 9/2/09 "14. The importance of setting environmental conditions was discussed. This is one of the key ways in which low carbon design can be implemented. It was suggested that work is undertaken to formulate a master set of generic ADB sheets which are used to set internal temperatures and humidities, and acceptable ranges. In particular, the relationship of external summertime to internal temperatures and an acceptable temperature range relative to exceptionally high external ambient temperatures needs to be considered. If this is not clear within a design/build contract, there will be an overprovision of mechanically cooled spaces."

21. What other organisations were involved at the design stage, both working for your client the NHS GGC Board and working for Brookfield Multiplex?

A. The technical design team for NHS GGC I dealt with were primarily HLM and BMJ Architects and Wallace Whittle, the Building Services Engineers. I recall having some interaction with Jim Miller of Ironside Farrar in relation to Master planning. Once Brookfield were appointed, I primary dealt with ZBP, the Building Services Engineers, IBI Nightingale the architects, and Mercury Engineering the M&E subcontractors.

22. Did you have any involvement at the design stage with regards to providing advice with appropriate specifications for the various rooms/wards/theatres within the QEUH and RHC?

A. In terms of temperatures, I did review with the contractor and NHS teams conditions set against HTM requirements, picking up some inconsistencies and irrational limits for example where rooms could seemingly be designed to be controlled anywhere between 16°C and 27°C summer and winter. This is outside ranges set by HTM 03-01. I had no jurisdiction on the actual setting of temperatures or any other parameters which was undertaken by designers and advisers with user groups. I noted in 2011 in a low carbon tracker that there was conflict between the ERs, the bid and the agreed position in terms of air change rates. I noted at the time **refer to Bundle 43, Volume 3, Document 20, Page 1134 –** that perhaps a more performance based approach considering risks would be of use to resolve the conflict – see page 15.

I do not recall this being taken forward and by the fourth contract issue, there was simply a reference to WHO compliance.

23. Do you think there was a conflict between BREEAM and safety, that is, where attempting to achieve energy targets would have meant sacrifices for patient safety?

A. I think there is no conflict whatsoever with BREEAM for reasons explained in earlier sections, in my opinion, there are no areas of conflict between BREEAM and HTMs. BREEAM Healthcare was developed in close collaboration with the NHS, and much care was taken by BRE to avoid conflicts with clinical need and necessity. Energy targets, which as I have explained were not driven by BREEAM, but by a desire to build a more efficient hospital. Aspects of patient safety in relation to water systems are not

affected by either BREEAM or energy targets as neither seek to affect the design, flow rate or distribution of hot and cold water. There is a drive to generate hot water by an efficient low carbon method however at no point would the safety of the systems be compromised by a low carbon approach as this would simply concern the central generation at temperatures required to stay within safe limits.

Patient safety in terms of ventilation is harder to answer. Adequate standards of filtration, avoidance of cross contamination, thermal comfort and adequate amounts of fresh are a basic standard and the focus was, and should be, to deliver all this as efficiently as possible. There was certainly debate on the amount of fresh air, but my recollection is that this was linked not just to energy, but also to the cost of the plant and the amount of space needed to accommodate plant. The air change rate approach to ventilation design was certainly discussed – see my response to Q22. My view was and is that given the conflicting rates being discussed, a risk based approach could have been an advantage. The effect may have been to increase rates or decrease from the 6 ac/hr but at least it would have been on the basis of assessing infection risk and air quality in a relatively novel design of primarily single rooms. I was not however party to the design group meetings where the ventilation rates were ultimately decided.

24. Why were chilled beans selected for installation?

A. I am not sure why this choice was made but it was an established design practice at the time and had been used in a number of hospitals I understand particularly those designed by Nightingale Architects. It was permitted even encouraged by HTM 03 01 in sections 2.43-2.46. Active chilled beams were part of the employer's requirements.

25. Why were thermal wheels selected for installation?

A. Once the choice of sealing the building had been made, there was a need for heat recovery as required by HTM 07 02. Thermal wheels were permitted in HTM 03 01 provided that they had a purge section. Plate heat exchangers were also used, although these are less efficient. I wrote a paper **refer to**

Bundle 43, Volume 3, Document 30, Page 1348 - looking at the issues and literature. This noted that:

During the competitive dialogue stage, use of ventilation heat recovery by thermal wheels was proposed by Brookfield Multiplex. This was accepted for all areas except the wards, where plate heat exchangers were required by the Board on advice from Health Facilities Scotland.

I suggested it could be reconsidered but as far as I can recall, the majority of plant uses plate heat exchangers, I cannot open the drawings I have on file to check further.

26. Who should approve any deviations from guidance? Within what documents should any deviations be recorded?

A. I am not sure as I was not a part of this process. Derogations would have I assume have been made at a senior project team level. There were logs kept I believe in a suite of documents known as “the project bible” which was kept by the project managers.

27. The Inquiry understands User Group meetings were held in the design phase of the project. Were you involved in user group meetings? Are you aware of who attended these meetings?

A. I did not attend user group meetings. I know there were many, and that these were attended by the NHSGGC team plus advisers but have not got records of what the meetings concerned or who attended them.

28. The Inquiry understands Brookfield Multiplex were awarded the contract to build the hospitals. Were you involved in evaluating the bidders?

A. I attended a number of competitive dialogue sessions and assisted in drafting the score for the energy and sustainability aspect of the project. We scored the bidders without knowing any cost data. The outcome is recorded in a report to the Carbon Trust **Bundle 43, Volume 3, Document 17, Page 1039.**

29. Did Brookfield Multiplex in their bid make any indication about not being possible to achieve guidance level SHTM03-01 air changes per hour due to energy targets? Did any other bidders make this indication?

A. I have searched meetings, reports and trackers. I do not believe that this was suggested, and in fact compliance with the ERs was confirmed. I have a technical clarification on file **Bundle 43, Volume 3, Document 13, Page 877.** In section 10.0, it confirms that the energy model is fully compatible with the servicing strategies set out in volume 3 in particular the use of a sealed building with chilled beams. By implication, I read into this that BM were confirming that the requirements of Volume 3 of the employers requirements, which have the higher ventilation rates had been accepted by BM as compatible with the energy target.

30. Did Brookfield Multiplex meet the Employer's Requirements overall in terms of energy and sustainability?

A. No bidder met the ERs entirely, it was a qualitative judgement on best approach in the main. There was furthermore a mechanism for fair division of responsibility between NHSGGC and the contractor to evaluate the target and uplift it if circumstances change. For example, increased hours of usage of intermittent areas, weather patterns etc.

Construction and Role in the QEUH/RHC Project

31. The Inquiry understands that you were also advisor to NHS GGC during the QEUH/RHC construction phase from around 2010 to 2014. Describe in detail this role, including dates of instruction, how you came to be instructed, responsibilities, persons reported to, and persons worked with and/or interacted with.

A. The role is explained in question 2. I was instructed by Renate Powell and Allan Crooks for the Carbon Trust work and Peter Moir for NHSGGC. My main interactions were with the following people – David Hall, Currie and Brown, Darren Pike and Ken Hall of BM, Steve Pardy and Guy Willis Robb or ZBP, Peter Moir of NHS GGC. I reported from time to time to Alan Seabourne. Later on in the process I worked with Ian Powrie of NHSGGC and David Wilson of BM

32. Did you provide any advice or guidance in relation to environment and sustainability to the contractors during the construction phase which started between 2010 and 2011? Who were you contracted to advise during this phase and what was your remit?

A. As above, we held low carbon design meetings but my remit was not to provide advice to the contractors, but to ask questions of them. I was always independent of the contractors. My role was not to advise but to challenge and question and to report which is somewhat different to advise.

33. Did you undertake a BREEAM assessment of the lab buildings that were opened in 2012 as part of phase 1? If yes, what did you assess and what rating was achieved?

A. Yes, I was the assessor and it achieved 74.16%

34. Did the pursuit of the BREEAM target have any impact on the workings of the energy centre?

A. Not the BREEAM target apart from the energy score – refer to the response to Q17. The workings of the energy centre certainly impacted the carbon target as achieving this was dependent on the satisfactory working of the CHP.

35. Did you provide any advice or guidance in relation to environment and sustainability to the contractors during the construction phase which started between 2010 and 2011? Who were you contracted to advise during this phase and what was your remit?

A. This is the same question as Q32

36. Who undertook the BREEAM assessment during this phase and what score?

A. As described in earlier sections, WSP undertook the Main Hospital assessment as a subcontractor to Brookfield Multiplex. I do not know the final score but it would have been over 70% to achieve the Excellent Rating.

37. Are you aware as to why HEPA filtration was not installed initially in all high-risk areas of the hospital?

A. No, I believed it to be installed to all isolation rooms but cannot open the schematic drawings to verify this. I am not sure where else it was or should have been installed. I recall some discussions on upstream filtration as it did not seem to be a high enough filtration standard to protect the HEPA filters but I have no record of discussions omitting HEPA filtration. I noted some discussion about “future” installation of HEPA and how fans would be sized to accommodate this in low carbon tracker 8th contract issue dated 15/08/2011

38. Did you have an input into the decision about the reduction of the minimum temperature requirement from 28c to 26c?

A. I believe this related to the maximum summertime temperature rather than the minimum temperature. I had no input again into the decision but did look at the environmental matrix, in June 2011. By this time upper temperatures were 26°C or below. I noted a number of or inconsistencies and irrational temperatures which I assume had come out of user group meetings.

39. Did you have a role in the decision to remove carbon filters which, the inquiry believes, were designed to remove odour ?

A. No, it was again a project team decision. I was informed but not involved. I noted in a meeting that it was part of a cost savings paper and advocated that any savings decisions should be made on the basis of whole life costing in line with best practice. I did query if carbon filtration could be omitted or bypassed in a low carbon tracker meeting sixth contract issue dated 04/05/2011. The bypass certainly would have been useful to save energy when the risk of odour was not present. I recorded that carbon filtration at that point was still proposed to theatres/ITU/CCU/isolation rooms/aseptic suite/kitchen. I am not sure if it was omitted here or elsewhere. I recall that there was discussion that the risk of odour had diminished from the Shieldhall plant and possibly this had an influence on the team decision.

Operational Phase in the QEUH/RHC

40. The Inquiry understands that you were also advisor to NHS GGC and in the QEUH operational phase from 2015 to 2017. Describe in detail this role, including dates of instruction, how you came to be instructed, responsibilities, persons reported to and persons worked with and/or interacted with?

A. My involvement at this time was to assist in resolving issues with metering. There was an extensive metering system but it was not organised effectively to monitor the energy and it was proving very difficult to establish if the carbon targets were being met and if not, in what areas excess energy use was occurring. The estates staff were struggling to use the Schnieder system to which the meters were connected. On investigation, we found that a lot if meters were not reading to the system or not reading reliably. This work went on for some time including training from Schnieder and was eventually mostly resolved but was less than ideal. I was instructed by Ian Powrie and worked with David Wilson of BM on the detail.

Conclusion

41. Please confirm whether you agree that BREEAM should never be used to compromise or jeopardise clinical or IPC needs?

A. I agree. BREEAM Healthcare was structured to work in harmony with clinical and patient needs.

42. Is there any further information that you consider to be relevant or of interest to the Inquiry?

A. Not at this time.

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

Appendix A

A46625174 - Bundle 1 - Documents referred to in the expert report of Mr Stephen Maddocks

A48381842 - Bundle 19 - Documents referred to in the Quantitative and Qualitative Infection Link Expert Reports of Sid Mookerjee, Sara Mumford and Linda Dempster

A52281466 - Bundle 40 - Miscellaneous Minutes from Design and Construction Phase

A52706440 - Bundle 43 Volume 3 - Procurement, Contract, Design and Construction, Miscellaneous Documents

Appendix B

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

A52351629 - 2.0 BREEAM Healthcare 2008 Issue 2.0

A52351625 - Action Plan Following Drawing Audit

A52351624 - Action Plan Following Workshop 240908

A52351628 - Back Up of Low Carbon Tracker Sixth Contract Issue 040511

A52351627 - Bidder 1 (Brookfield) Technical Clarification 1 (23 Sept 09) Response

A52288148 - Copy of EDS ItP Batch 2 – EL Highlighted Areas for Discussion

A50388021 - Final Thermal Wheel vs PHX

A35593952 - HTM 03-01 Part A Ventilation (Bundle 1, Doc 7)

A37344358 - HTM 03-01 Part B Ventilation (Bundle 19, Doc 37)

A52351632 - KN5253 BREEAM Healthcare FAQs

A52288112 - Low Carbon Tracker Eighth Contract Issue 150811

A52351631 - Low Carbon Tracker Third Contract Issue 191110

A52351626 - Progress Report to Year End March 2010 Final with Insert 150310

Susan Logan CV

Susan Logan owns Ecoteric Ltd which is a specialist consultancy delivering Low Carbon Sustainable buildings.

Susan has many years of expertise in working with organisations to change and adopt new ways of working for a low carbon future.

Ecoteric have completed over 80 BREEAM assessments and have many more in progress. Our approach is to be proactive, helpful and involved, ensuring projects reach certification in the most relevant and useful way for our clients.
We include for a commercial online BREEAM management tool to streamline the process.

We are experienced in a range of sustainability assessments including LEED and SKA.

Ecoteric have undertaken many Energy Performance Certificates, helping clients achieve the level of certification they require for energy efficiency.

Susan is a LEED AP and ESOS energy adviser.

She has advised on projects from inception to post construction up to £800M in the public sector, as well as the commercial, leisure and residential sectors.

In addition, she has substantial experience in energy auditing and working on buildings in use. She has an interest and expertise in bringing buildings into optimum operation and looks at all projects with this perspective from the start.

Susan is a Chartered Building Services Engineer with 19 years design experience in building services consultancy and contracting.

She has been a BREEAM assessor since 2004 and is a BREEAM accredited professional. She is also a LEED AP BD+C, which enables a wider view of sustainability. She undertakes Life Cycle Analysis and Costing and has a keen interest in embodied and operational carbon, and the relationship between the two.

She has developed and managed bespoke sustainability systems, including a system for an enterprise zone which ran successfully for over 5 years.

Susan is also a Registered Professional Energy Consultant and Lead ESOS assessor with experience in energy strategies and management of large sites, carbon management, low carbon design advice, particularly in the social, education, heritage and health sectors.

She is an accredited competent person as defined by BREEAM to undertake Life Cycle Analysis and Life Cycle Costing.

Susan is the heating adviser to Worcester Diocese Advisory Committee advising on changes to historic listed churches. She has delivered Zero Carbon Webinars to the Church of England.

Susan is assisted by an associate director specialising in assessments.

Qualifications

- Chartered Building Services Engineer MCIBSE, CEng
- Building Services Engineering Honours Degree (BSc)
- Registered Professional Energy Consultant with the Energy Institute
- Experienced LEED and BREEAM Commissioning Authority
- LEED AP BD+C (New Buildings)
- ESOS lead assessor
- CIBSE Low Carbon Consultant
- BREEAM Accredited Professional

- Qualified and Licensed Assessor for BREEAM New Construction, In Use and Refurbishment Fit–out
- Competent person as defined by BREEAM to undertake Life Cycle Analysis and Life Cycle Costing.

Experience

2007 - Present: Managing Director - Ecoteric Limited

- Energy Auditing for various client including NHS Trusts, public and private organisations.
- BREEAM Assessor and AP, including several award winning schools in Anglesey, Leisure Centres,
- Delivers training on BREEAM and Zero Carbon
- Development and implementation of a bespoke sustainability scheme for the Hereford Enterprise Zone
- Workshops influencing company policy.
- Provider of whole site energy strategies, energy related business cases and financial modelling associated with plant and renewable energy sciences.
- Office projects specialising in low carbon and sustainable fit outs and refurbishments for private and public sector organisations.
- Life Cycle Analysis for major projects optimising embodied carbon.
- Commissioning Authority for LEED and BREEAM Projects.
- ESOS Lead Assessor for a number of commercial and industrial clients.

- 2001 - 2022 (latterly as part time Associate): BRE
- Principal Consultant then self-employed Associate.
- Responsibilities wide ranging between research and presentation, client and contractor advisor, project specification and implementation. Delivering training courses.

1986 - 2001: Capita

- Senior Engineer, Associate Director
- Team Leader and subsequently manager of wide range of primarily healthcare, but also public sector and private sector projects

- 1984 - 1986: Carter Building Engineering Services
- Senior Design Engineer, Design Manager
- Design and contact administration of private and public sector design/build projects

  1982 - 1984: King Cathery Partnership
- Engineer
- Design and contract administration of engineering projects in a range of public sector projects

Scottish Hospitals Inquiry
Witness Statement
Capita Property & Infrastructure Limited

1. In accordance with the request from the Inquiry, Capita Property & Infrastructure Limited (Company Number 02018542) (**Capita**) c/o First Floor, 2 Kingdom Street, Paddington, London, England, W2 6BD, has produced the following statement in response to the questionnaire provided to it and to assist the Inquiry with its investigations:

Background

2. Capita is a private limited company that works within the public and private sectors providing services in relation to the design and build of real estate and infrastructure assets.

3. Capita was engaged as the Project Supervisor on the Queen Elizabeth University Health Project (the **Project**) pursuant to a contract which incorporated the NEC3 Professional Services Contract, Option A (the **Contract**).

4. The Contract comprised: (1) a letter from NHS GGC dated 21 May 2010; (2) a letter from 28 March 2011; and (3) an agreement dated 28 May 2013 (**Agreement**). The following points should be noted:

5. The parties mutually agreed that Capita would have "*limited involvement in RDD and no involvement in design sign-off or pre-approval*" (page 24 of the Agreement).

6. Although the High-Level Information Pack (**HLIP**) formed part of the Contract, the scope of services was adjusted in the Agreement. To explain further:

7. The HLIP sets out 10 items forming part of the Project Supervisor's scope for post-contract pre-construction (i.e. prior to main works construction delivery and handover) and notes what the Project Supervisor may be called upon to do in Stage 2 of the Project.

8. The Agreement sets out the Scope of Services and notes that "*This Scope of Services may contain provisions that affect the conditions of contract. Such provisions apply and take precedence unless agreed otherwise between the Parties."*

9. The Agreement sets out the adjusted Scope of Services at Part 2 of Section 3. It incorporated the first 9 items from the scope in the HLIP, but did not incorporate item 10. Capita's Supervisor team did not have an obligation to comment on the Contractor's design proposals.

10. References to other parties involved in the Project are as follows and are used interchangeably in this statement:

a. Project Manager – NHS GGC
b. Contractor – Multiplex
c. Lead Consultant – Currie & Brown
d. Project Supervisor – Capita

11. The Inquiry requested a witness statement from David Ramsay, who was involved in the Project. However, due to ill health, Mr Ramsay is unable to provide a statement. Capita has therefore agreed to provide a corporate statement. To do this, Capita has used its best endeavours to review the information available to it and has also liaised with individuals who had some involvement in the Project. Capita has carried out key word searches on the documents it holds from the Project and has reviewed in detail the Project Supervisor monthly reports, the Project Manager/Project Supervisor Interface meeting notes and the Project Manager/Multiplex progress meeting notes (up to December 2014). Following this review, Capita has produced this witness

statement to the best of its knowledge. The passage of time and access to key individuals has made the production of the statement more difficult.

12. If the Inquiry is not in possession of any documents that are mentioned in this witness statement, Capita would be happy to provide copies on request.

Experience

13. Prior to its involvement in the Project, Capita had been involved in a number of healthcare projects across the UK including:

a. New Stobhill and Victoria Hospitals, Glasgow (NHS GGC);
b. Mid Argyll Community Hospital, Lochgilphead (NHS Highland and Argyll);
c. St James University Hospital, New Oncology Wing (Leeds Teaching Hospital NHS Trust);
d. Rowanbank Clinic, Glasgow (NHS GGC);
e. `Redevelopment of Victoria Hospital, Kirkcaldy (NHS Fife); and
f. New Birmingham Hospitals (University Hospitals Birmingham NHSFoundation Trust).

14. Although the NEC3 Supervisor role was a relatively new role in the industry at the time, Capita also had specific NEC3 Supervisor experience on the following projects:

a. Kirkintilloch Link Road (for the Kirkintilloch Initiative);
b. Pacific Quay, BBC Workplace (for the BBC); and
c. John Wheatley College (for John Wheatley College).

15. Capita provided a multi-disciplinary team with the necessary experience to fulfil its role as Project Supervisor. The lead supervisor for the Project was John Redmond who was based on site from commencement of the role in June 2010 until his retirement in March 2016, when David Ramsay assumed the role. Mr Ramsay was based in the Glasgow office and attended site as and when it was required. The full team and the roles were as set out in the Scheme Proposal

dated 5 March 2010. It was a team chosen based on their recent experience in working in supervisory and inspection roles in major hospital projects throughout the UK.

16. In advance of the Project commencing, the Project Manager arranged training events on the NEC3 contract. Capita attended these training sessions. Specifically, John Redmond attended a two-day NEC Supervisor training course given on behalf of Health Facilities Scotland by Dr Stuart King of Docte Consulting.

Capita's Appointment as Project Supervisor

17. In 2009, Capita secured a place on the HFS Framework for Project Management, Quantity Surveying, CDMC and NEC Supervisor services. The Project was tendered by NHS GGC under the auspices of this framework, thereby allowing Capita to tender for the work.

18. In terms of the appointment process, NHS GGC, through the HLIP issued on 9 February 2010, invited Capita to prepare a submission and tender proposal for the role. The HLIP sets out the scope of the Project, the scope of services required, the details of the information required and the timescale for the response. Upon receipt of this document as a framework provider, Capita issued a Scheme Proposal dated 5 March 2010. This was accepted by NHS GGC by a letter dated 21 May 2010.

19. Capita's team had a good working relationship with the NHS GGC team when on site. Its relationship with Multiplex was professional and collaborative. Capita's involvement and direct interaction with site-based personnel varied depending on what matter or inspection they were conducting at the time. The Capita Supervisor team would generally engage with the respective Multiplex site area manager when carrying out inspections or when checking drawings and specifications. Monthly meetings were also attended by Capita, normally

by the lead supervisor John Redmond

or post-completion by David Ramsay and, if necessary, supported by specialist colleagues to produce the monthly Project Supervisor's report.

20. If John Redmond was not available, John Kilbane was his Deputy and he, along with others involved in the Project, provided the necessary holiday cover. Capita's proposal issued in February 2010 (page 3) sets out the proposed personnel for the Project.

Review of the Works Information

21. Capita provided an experienced multi-disciplinary Project Supervisor team who understood and were familiar with all aspects of construction and particularly the specific role, responsibilities and communications that required to be implemented by the Project Supervisor.

22. In order to fulfil the Project Supervisor's role, Capita needed to understand the Contractor's design proposals so that they could carry out their inspection duties effectively. Therefore, at the appropriate stages of construction, members of the Capita Project Supervisor team reviewed the appropriate drawings and specifications to familiarise themselves with the scope and level of involvement required for inspecting the works.

23. Capita was not, however, required to review design data or comment on design proposals. As set out at paragraph 1.3 above, Capita was not to have any involvement in design sign-off or pre-approval and item 10 of Appendix A to the HLIP did not form part of the Agreement. Any concerns or queries that arose when familiarising itself with the documents were referred directly to the Project Manager and then noted in the Project Supervisor's monthly reports if deemed significant.

24. With reference to the agreed ventilation derogation recorded in the M&E Clarification Log (**Bundle 16, Document No. 23, Page 1662),** this was a pre-agreed document between the NHS GGC and Lead Consultant agreed

document

between the NHS GGC and Lead Consultant. As it pre-dates Capita's involvement in the Project, it would have been deemed accepted by Capita when it was shared with Capita in June 2010.

25. In respect of the ZBP Ventilation Strategy Paper dated on or around 15 December 2009 (Bundle 16, Document No.21, Page 1657), this document also pre-dates Capita's involvement in the Project and again would have been deemed accepted by Capita when it was shared in June 2010.

26. Capita is not aware of any risk assessments that NHS GGC carried out in respect of the change in the ventilation strategy that appears to follow the ZBP Ventilation Strategy Paper dated 15 December 2009. As the document pre-dates Capita's involvement, risk assessments may have been carried out that Capita was not informed of.

Full Business Case

27. As is set out above, Capita assembled a multi-disciplinary team with healthcare experience to ensure that the role of Project Supervisor was carried out to achieve the objectives of the Project. In the early stages of the Project, prior to physical works getting underway, the Capita on site team's focus was on understanding the details and complexity of the Project so that the team were ready to commence the role of Project Supervisor. If there were any concerns or queries arising from this familiarisation and review stage, they were shared with the Project Manager and the Lead Consultant.

28. Capita's main focus was to familiarise itself with the concept and proposed construction details of the Project with particular emphasis on the construction process and buildability.

29. To the best of Capita's knowledge, it was not specifically made aware of the ventilation derogation issues. These documents pre-date Capita's involvement and would have been reviewed and agreed by the NHS GGC Project team including their specific departmental specialist support as well as the Lead Consultant. Even if Capita had specifically been made aware of the ventilation derogation, the Capita on-site team would not have considered it appropriate to question the decisions being made or details being agreed, given the expertise of the other teams involved.

30. In any event, although Capita was required to familiarise itself with the Works Information in accordance with the HLIP, as set out at paragraph 1.3 above, the Agreement, which was part of Capita's Contract, does not include the requirements of item 10 in Appendix A of the HLIP, which would also exclude the similar requirements set out in Appendix 3 and 4 of the HLIP from Capita's Contract.

Design and Construction and Role in the QEUH/RHC Project
Reviewable Design Data (RDD) Process

31. Capita was the Project Supervisor on the Project and not the party responsible for producing the design.

32. To the best of its knowledge, Capita had no involvement with the RDD process and User Group meetings with the Contractor's design team. Paragraph 7.3 of the Scope of Services in the HLIP specifically states that the Project Supervisor was not to be involved in any user group discussions and that Capita would be involved solely with the construction and M&E aspects of the design development stage (Stage 2) and on site construction works for the Labs (stage 1) and Adult and Children's hospitals (Stages 3 and 3A). This remained the case before and after signing the Agreement and alternative agreement was not reached. The Project Supervisor's monthly progress reports, prepared

following the Contractor's monthly progress meetings, also demonstrate that design queries did not go to Capita.

33. In respect of document sharing, drawings were shared with Capita on the ACONEX document handling system. Capita received notifications and would then be able to access or search for information as and when required.

34. Capita received updates on progress through the Monthly Project Management Interface meetings held between the NSH GGC Project Manager and Capita as Project Supervisor or through the Contractor's monthly progress meetings or alternatively via the ACONEX and SYPRO document portals which would flag Early Warning Notices (**EWN**), Project Manager's Instructions (**PMI**), updated or new drawings, specifications and reports from the progress meetings. At the Project Management Interface meetings, Capita would present its Project Supervisor report, defect notices and what it had observed. At the Contractor's progress meeting, the Contractor would update on progress. Capita would attend these meetings and would confirm if something had been discovered during its inspections, for example.

35. Capita was asked to provide a fee quote for review of mechanical and electrical drawings. John Redmond provided the fee quote to Peter Moir on 15 November 2011. We are aware of a reply from Peter Moir on 21 November 2011, which confirms the basis upon which Capita was instructed to proceed. The extent of any comments provided by Capita thereafter is not known.

Technical requirements

36. Capita was not directly involved in the definition of the technical requirements (air change rates, pressure differentials and filter requirements). Capita's role was to ensure that technical requirements were implemented by Multiplex on site. These detailed technical matters were dealt with by the specialist teams with the NHS GGC remit, the Lead Consultant and the Contractor's design team. Capita was required to familiarise itself with the documentation and drawings. When the testing was carried out by the Contractor, Capita would

observe the testing in conjunction with the drawings and confirm what was happening or if any issues were observed.

Ward 4B – QEUH; Ward 4C – QEUH; Level 5 – QEUH; Critical Care – QEUH; Ward 2A & 2B – RHC; PICU RHC – RHC; and all Isolation rooms

37. In respect of the intended use and purpose of: Ward 4B – QEUH; Ward 4C – QEUH; Level 5 – QEUH; Critical Care – QEUH; Ward 2A & 2B – RHC; PICU RHC – RHC; and all Isolation rooms, Capita's knowledge of the specifications of these wards was limited to the inspections and test witnessing the team were required to carry out as the works progressed. Information would have been obtained from reviewing the available approved construction drawings and specifications stored on the ACONEX document handling portal. The same applies to any design changes.

38. As set out above, Capita was not directly involved in the RDD process and User Group sign off and was not required to be aware of any issues beyond those provided in the design documents. Capita would therefore only have an understanding of the fundamental principles and purposes of these wards if there were any specific criteria that they needed to be aware of or request from the specialist teams in the wider Project when carrying out their inspection roles on site. Capita cannot comment on the particular requirements/reasons/rationale for the design and specifications of these specialist departments as Capita's role was checking what had been built rather than inputting into the rationale for the design.

Design Acceptance Procedure

39. Capita's involvement in the Design Acceptance Procedure was restricted to familiarisation with the construction details to aid and assist their inspection and test witnessing roles and responsibilities during construction. Capita was not responsible for creating the procedure. Through attendance at the various project and process meetings to inform the Project Management team of their observations, inspections and test witnessing or by considering information available on the ACONEX and SYPRO document portals, Capita would get an insight into potential changes and who was involved from the wider team.

40. On a review of the information available, to the best of Capita's knowledge there was no direct contact between Capita's onsite team and Infection Prevent and Control staff before Completion.

Site presence

41. In terms of on-site presence for monitoring the works and testing, the Capita on site team was led by John Redmond who was based on site full time from soon after appointment.

42. Capita did not carry out joint visits with the NHS GGC Project team. Capita operated independently or as part of an inspection team with the Contractor's area managers. There may have been occasions when there were NHS GGC personnel in attendance or present, but this was not a prerequisite to the role or the process of the Supervisor carrying out their work.

43. Progress Meetings were held monthly where Multiplex presented their Progress Report. The Project Manager chaired these meetings. The Contractor and Lead Consultant were also present. Capita's lead supervisor or nominated deputy was also in attendance.

44. Capita's team did not report or comment on the progress on site. It was Multiplex's responsibility to provide a monthly progress report for review by the NHS GGC.

45. In terms of site presence generally, the monthly reports provided by Capita set out how many times a representative had been on site. If John Redmond wasn't there, someone else would be. As set out above, holiday cover was in place.

Removal of carbon filters

46. Capita cannot find any record of Capita's team having been involved in any decisions to remove carbon filters.

Ward 4B and 4C

47. Capita was advised at the Project Manager's interface meeting no 34 in July 2013 that the works in this area had been instructed to stop as NHS GGC had requested changes to the specifications. Capita does not recall the rationale behind any decisions in respect of these wards or why a suspended ceiling was installed as Capita's role was only to check that work was done in accordance with the Works Information, which covers drawings, specifications and PMIs. If it was on the approved drawings, it would not have been questioned by Capita. Capita had to be familiar with the documents to carry out its role but inevitably had to rely on the expertise of others to ensure the drawings it was relying on and checking in accordance with were correct.

48. Change orders and PMI's were the domain of the NHS GGC project team and Lead Consultant. Changes to specifications and requirements would not have been queried by the Capita on site team given the background and expertise of the originator(s) nor would the Project Supervisor team have considered or queried the intended purpose of the ward. Capita's knowledge of the specifications of these wards was limited to the inspections and test witnessing that the team were required to carry out as the works progressed. This

information would have been obtained from reviewing the Works Information. The same applies to any design changes. In terms of checking works, the Project Supervisor team would have checked the works were in line with the agreed and approved standards and drawings issued for construction on the ACONEX portal.

49. In terms of air change rates, the Capita on site team would have carried out any checks and test witnessing in line with the approved drawings and specifications issued for construction and available on the ACONEX portal. Approval of this construction information would have involved specialist teams from NHS GGC and the Lead Consultant. Any risk assessment associated with this design would have been carried out by the initiators and approvers.

Ward 2A/2B RHC

50. The processes put in place to ensure guidance compliance for Wards 2A and 2B were no different to the processes for other critical care units or indeed any clinical area of the Project. Capita carried out checks and witnessed tests in line with the approved drawings and specifications issued for construction and available on the ACONEX portal. Approval of this construction information would have involved specialist teams from NHS GGC and the Lead Consultant.

51. Changes to the design proposals would have been visible on the drawing and specifications revisions log on ACONEX. These would have been reviewed and agreed by the NHS GGC specialists and Lead Consultant team and Early Warning Notices (if appropriate) and PMI's would have been issued. Capita would not, however, have been involved in the sign off of the final design and so would not have raised any concerns with the Project team.

52. In terms of air change rates, as in respect of Wards 4B and 4C, the Capita on site team would have carried out any checks and test witnessing in line with the approved drawings and specifications issued for construction and available on the ACONEX portal. Approval of this construction information would have involved specialist teams from NHS GGC and the Lead Consultant. Any risk assessment associated with this design would have been carried out by the initiators and approvers.

Isolation Rooms

53. Capita was not responsible for the design of these rooms and so has no knowledge of whether specialist advice was sought to determine the final number and location of these rooms.

54. The Employer's Requirements issued with the IPCD suite of documents indicates in Volume 2/1 clause 8.2.14 the indicative number of isolation rooms that were to be provided. The drawings and specification for the isolation rooms would have been developed initially by the NHS GCC core team and subject to their review and approval as the drawings and specifications were developed for final approval for construction. The final selection and locations of the isolation rooms would have been agreed by the NHS GGC and Lead Consultant during the design review and acceptance process. To the best of Capita's current knowledge, the Capita on site team were not involved in this process.

55. The final agreed design for the construction of the isolation rooms prior to handover was as published on ACONEX. This would have been reviewed and agreed through the design development process. Approval would have been given by the NHS GGC specialist team in conjunction with the Lead Consultants.

56. To the best of Capita's knowledge, the Capita on site team were not involved in the design of the patient's bedroom or ensuite. Capita is not aware of why the change to the main extract was requested or who approved it.

Water and Taps

57. Capita was not involved in the selection process of the taps nor any related operating and maintenance process and so Capita's team had no reason to be concerned about the decision to use Horne taps. Capita was involved in inspecting and testing, not the selection of materials.

58. Capita's Project Supervisor team were aware of the water systems being filled from August 2013. This would have been done to facilitate pre-commissioning and testing of the systems as the works were becoming more integrated and complete. Project Supervisor report No 29 records that Project Supervisor Communications 148 and 157 were raised that month with Multiplex, following concerns about the water system being filled. These concerns noted that the system was being filled and sought Multiplex's proposals for flushing and cleaning the system following these actions. The communications were satisfactorily answered and were closed in the same reporting period.

59. The Project Supervisor reports were reviewed monthly with the NHS GGC Project Manager and outputs and actions recorded in the Project Manager Interface meeting notes issued by the Project Management team. Further Project Supervisor reports also noted specific observations and outputs in connection with the water systems in addition to documenting any tests that had been witnessed. These are:

a. Report 32 - November 2013 - Chilled Water (**CW**) quality samples tested and confirmed acceptable.
b. Reports 34 to 36 - February to April 2014 - CW testing ongoing.
c. Report 39 – July 2014 - No water being discharged from the outlets in the Domestic Hot Water System (**DHWS**) and CW systems, which implies that they were filled.
d. Report 42 - October 2014 - DHWS and CW system second fix is still to be completed but notes that there is water in the systems.
e. Report 43 - November 2014 - Low temperature hot water system (**LTHW**) and CW treatment tests witnessed and satisfactory (Project communication 322).

The report also documents the existence of a Water Treatment sample logbook.

f. Report 44 - December 2014 - Water chlorination and sterilisation tests witnessed and recorded as satisfactory.

g. Report 45 - January 2015 - Water quality testing witnessed and Water Chlorination testing test results noted as acceptable for level D&G.

60. The Project Manager Interface meetings at which the Project Supervisor reports were reviewed also note the following additional references to tests or checks on the water system:

a. August 2014 – Running water noted in taps on the G Floor Outpatient department and the Project Supervisor team actioned to check with Multiplex what additives were being used and what controls were in place.

b. September 2014 – Notes that dirty water had been observed and that water sterilisation would be starting in September.

c. Post-completion Project Supervisor reports 51, 53 and 54 all documented further water quality testing with satisfactory results.

Commissioning and Validation

Witnessing testing of commissioning activities

61. To the best of Capita's knowledge, the Capita on site team were not required to countersign test results but they recorded and reported the outcome of any tests that they witnessed, in the monthly Project Supervisor report and in the review meeting with the NHS GGC Project Manager.

62. In accordance with the Contract, it was part of Capita's duties to witness testing and this role was carried out by Capita throughout the duration of the Project, including in relation to commissioning. The Capita Supervisor team then made comments on any issues they had noted throughout the construction and commissioning of the ventilation and water systems. These were notified to Multiplex through the Project Supervisor’s comments log or as a formal defect notice. These issues were also noted and reviewed at the monthly meetings held with the NHS GGC Project Manager and were also noted in Multiplex monthly progress reports.

Commissioning of the water and ventilation system

63. The Contractor was responsible for the commissioning of the water and ventilation systems. This was a multi-disciplinary role and involved Multiplex managers, the specialist subcontractors involved in the installation and specialist commissioning subcontractors. Final all-inclusive sign off was by the NHS GGC Project Management team by issuing the Sectional Completion Certificate. The Project Supervisor team's role in this, along with Multiplex, was to notify any defects found.

64. The Project Supervisor's monthly reports confirm what tests were witnessed. For example, at paragraph 3.2 of the Project Supervisor's monthly report no 45, a list of what was witnessed in January 2015 is produced. The report then also sets out what tests were unsatisfactory, which tests failed and had been re-tested successfully and previously witnessed tests which required to be retaken. The reports also confirm when Capita visited site.

Factory testing

65. To the best of Capita's knowledge, Capita was not given the opportunity to witness factory testing. This is not uncommon in the construction industry as items of plant and equipment will be accompanied by test certification and ultimately will be tested and commissioned in the as installed environment.

Independent Commissioning Engineer

66. The decision not to engage an independent commissioning engineer would have been made by the NHS GGC board and Lead Consultant in conjunction with Multiplex. To the best of Capita's knowledge, Capita's Project Supervisor team were not involved. Capita cannot advise what the impact of the decision was and whether in hindsight it was the correct decision as it was not responsible for instructing the engineer.

Open-ended pipework

67. In respect of any pipework open ends identified in site walk rounds or inspections, Capita's Project Supervisor team raised formal Project Supervisor Communication documents no 9, 10, 14, 59 and 102, in addition to having informal discussions on site. These issues were attended to by Multiplex by temporary covers and the communications on the topic were then closed. The pipes were not rejected as far as Capita is aware but, in any event, this would have been a matter for the Project Manager. The Project Supervisor's role does not extend to rejecting work.

Energy Centre

68. The Energy Centre was a complex multi services specialist installation which was constructed in two separate phases over the life of the Project:

a. The A Side was included in the Laboratories Project Stage 1 and handed over on 2 May 2013.

b. The B Side was included in the Main Hospital works Stage 3 and handed over on 29 January 2015.

69. In terms of commissioning, the Project Supervisor monthly reports identified several occasions on which successful commissioning activities were witnessed. For example, from 2013 through to handover of the Stage 3 works in January 2015, the reports referred to the tests which were witnessed for the advanced A & B side systems, generators, MTHW systems and the CHP plant. Post-handover there continued to be references to the witnessing of commissioning in the Project Supervisor's reports including references in Defect notice numbers 124 and 147 (which made references to the comments and observations Zurich had made on the installations and requirements for test and certification records). These comments and observations were recorded on the Final Defects Certificate of 15 February 2017.

70. Capita have been unable to locate any document which confirms that the Capita on site team had knowledge that the Energy Centre would be retained by Multiplex following handover, or that they had any role in the validation of the same.

Handover

Final inspections

71. The Project Manager was responsible for confirming that the Project was complete. The Project Supervisor is responsible for checking for defects and including any defects on the schedule of defects. To the best of Capita's knowledge, Capita complied with its duties in terms of checking and inspecting the works and considering the suitability of M&E test results and the key commissioning activities. If Capita was aware of something that ought to have prevented handover, this would have been flagged. The Sectional Completion Certificate issued in January 2015 included a schedule of incomplete works.

72. Capita's multi-disciplinary Project Supervisor team had considerable healthcare construction experience, as is set out above. Through close collaborative working with the Multiplex managers and NHS GGC Project team (particularly in the weeks leading up to completion) and given their familiarity with the various aspects of the Project, Capita's team was able to focus on the key elements that were critical to a successful handover, whether this was by asking for the appropriate commissioning evidence or attendance at and witnessing tests.

73. Closing out a project of this scale requires considerable team effort and collaboration, being the key ethos of the NEC3 contract. That the Sectional Completion Certificate was able to be issued by the Project Manager on 29 January 2015 indicates that the whole Project team were satisfied that all critical elements had been verified.

Energy Centre

74. To the best of Capita's knowledge, the Capita on site team were not involved in any discussions on the readiness of the complete Energy Centre at handover nor when the complete Energy Centre could be brought online. These discussions and decisions would have been the prerogative of the Project Management team and Multiplex. As set out above, the Energy Centre A side which was part of the Stage 1 Project Laboratories was handed over and operational on 2 May 2013. To the best of Capita's knowledge, the Capita onsite team were unaware of any outstanding design issues at handover of any part of the Energy Centre at Stage 3 main hospital completion, nor were the Capita onsite team aware that it would take almost a year before the Energy Centre was in a position to be brought online.

75. Given the complexity of the systems and the ongoing works bringing the hospital (and particularly the plants and equipment) onstream, Capita's understanding was that the Energy Centre had been agreed by NHS GGC and Multiplex as incomplete work and not part of the handover.

Validation

76. Throughout the Project, Capita's role was to witness tests and carry out inspections of the various works and systems as they were notified by the Multiplex team that these events were taking place. In particular, as the works advanced to completion, these inspections and test witnessing became increasingly frequent, especially relating to services and completion of rooms. The M&E elements of the Project were by their nature and intended use, complex and varied. Many parties were involved in the M&E Services elements to demonstrate and or witness the systems as they were brought onstream. For ventilation systems the process involves, in addition to visual checks for compliance with the agreed construction drawings and room data sheets, pressure and flow rate tests and the balancing of the flow rates. The latter tests would usually be carried out by specialist Commissioning Contractors, and were normally, but not always, carried out in front of any or all of the site-based personnel from NHS GGC, Multiplex and Capita. Building Control also carried out its own checks and inspections on the ventilation systems, as part of their own regime in closing out the building warrants.

77. These combined efforts, and the regime of inspecting the rooms and the key elements of each room, generated the overall satisfaction that the ventilation systems were satisfactory. The tests and witnessing regime and records were documented in the monthly Project Supervisor reports, Project Manager Interface meetings and the Contractor's monthly progress meetings and reports, and towards completion the Completion Criteria meetings that were held. Actual test and witness records from the inspections would have been saved on Multiplex document management systems. The Project Manager must have been sufficiently satisfied, based on the evidence available, that it was appropriate for the Sectional Completion Certificate to be issued in January 2015.

Asset tagging

78. Asset tagging is typically a Facilities Management task carried out post-completion. Consequently, it would not have been considered unusual for Capita's Supervisor team not to have raised comments on the absence of asset tagging pre-handover. It is noted in the Capita Supervisor report No 64 for the period 24 October to 23 December 2016 that the Project Manager instructed Multiplex to provide and install 20,000 enhanced asset tags and labels under PMI 493, which was issued in November 2016. The schedule of defects issued with the Defects Certificate of 26 January 2017 did record this issue being raised on the FM First schedule on 17 August 2016. Beyond this, Capita's Supervisor team had no involvement in the provision of asset tagging.

79. Capita is not aware of the reasons for the late variation as, in accordance with the ER's, asset tagging should have been included.

Post-handover

80. Capita's team remained involved in Stage 3 of the Project following handover until around January 2017. The main focus during this stage was to continue carrying out inspections and witness the testing that was being carried out by Multiplex as NHS GGC moved towards its take over and running of the facility. Formal monthly reports issued to NHS GGC continued until May 2016, with a combined report for June and July 2016. Reports were produced from August to October 2016 with a final report being issued in January 2017, covering November and December 2016. Any additional works instructed post-completion, defects or specific investigations were covered in this period. Completion and close out of the defects periods for Stage 1 Laboratory and Energy Centre A Side were also carried out in conjunction with these activities.

81. There were two further separate phases of the Project for which the Capita on site team were engaged by NHS GGC to deliver NEC Supervisor services. These were Stage 3A (which was part of the original scope of work) and Stage 4 (additional work instructed). Stage 3A commenced in June 2015 and was completed and handed over in May 2016. Stage 4 commenced in April 2015 and was completed and handed over in January 2017.

82. The Capita on site team were also engaged by NHS GGC to look at some sundry matters including a sink hole in approach roads and other tasks until December 2017.

Declaration

I believe that the facts stated in this witness statement are true. I understand that proceedings for contempt of court may be brought against anyone who makes, or causes to be made, a false statement in a document verified by a statement of truth without an honest belief in its truth.

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

Appendix A

A45099401 – Scottish Hospitals Inquiry- Hearing Commencing 13th May 2025- Bundle 45 Volume 5 (External Version)
A47069198 - Scottish Hospitals Inquiry - Hearing Commencing 19 August 2024 - Bundle 12 - Estates Communications (External Version)

A47851278 - Scottish Hospitals Inquiry - Hearing Commencing 19 August 2024 - Bundle 16 - Ventilation PPP (External Version)

A49342285 - Scottish Hospitals Inquiry - Hearing Commencing 19 August 2024 - Bundle 17 - Procurement History and Building Contract PPP (External Version)

Scottish Hospitals Inquiry

Witness Statement of

Hannah Rodger

This statement was provided by the witness in response to the following comments made by Sandra Bustillo during her evidence given to the Scottish Hospitals Inquiry

"The journalist, Hannah Rodgers of the Herald on Sunday, was a regular recipient of internal documents from unknown sources, initially between February and May 2019 and then again from September to November 2019, when information leaks were also shared with politicians and political journalists".

My name is Hannah Rodger, currently employed as the Chief Reporter for the Sunday Mail. I have worked as a journalist for 13 years including as the Chief Reporter for the Herald on Sunday between January 2019 and February 2020.

I would like to put my response to the above claims by Ms Bustillo on the record. They are inaccurate and tend towards defamatory given my line of work.

Like all responsible journalists and as enshrined in the Contempt of Court Act 1981 I take the protection of my sources very seriously. Any suggestion that I would compromise the identity of any source to an organisation I was writing about is categorically untrue. The fact that a source is not specifically named is beside the point from a protection of sources perspective. Providing information as to the number of sources is equally capable of contamination.

During the time I worked for the Herald on Sunday I had more than a dozen sources from across academia, the health service, construction and civil service who informed my extensive reporting on the QEUH issue. I received information from the majority of these people - not just 'three unnamed

individuals'. I am grateful to all of them.

While some spent hours explaining in-depth documents or advising me where I should seek other information, others risked their careers to expose what they viewed as a cover-up that could be harming people.

For context, I have obtained a subject access request from NHSGGC. As part of this I noticed an email from a member of their communications department (the sender has been redacted) which claims information I reported was in "one of the big documents that got left for Hannah" and suggested I was "very excited" about receiving it. This, I can assume, is referring to documents deposited at The Herald offices on one occasion in late 2019.

These documents were left at the office reception for me by an unknown individual, who I never met and who I do not know the identity of to this day.

The only person with knowledge of how I obtained those specific documents and my reaction to receiving them was my then-editor Andrew Clark. Mr Clark has now gone to work at NHSGGC in their communications team. Mr Clark was unaware of the exact identities of my sources but would have been aware I had numerous sources, not just three.

I believe Ms Bustillo has used clever word play by suggesting I "confirmed to her team" - I would have spoken to Mr Clark, when he was my editor, about my stories but I have never spoken to an employee of NHSGGC regarding sources or confirmed who any of them were.

It should be noted that during the peak of my reporting NHSGGC did attempt to try and find out who my sources were. One of their communications team even suggested to me that they knew I had 'three sources' and made a derogatory comment about the mental health of these supposed three sources while I was speaking with them about another unrelated story.

It is not lost on me that there are three whistleblowers giving evidence to the Inquiry. I believe the statement about me having three sources seeks to imply they were responsible for providing information to the press and were the sources of my stories. I believed in 2019/20 that the communications department was fixated on blaming three individuals for the stories that were being reported and Ms Bustillo's statement confirms, in my opinion, that they are still seeking to do so.

Declaration

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

Scottish Hospitals Inquiry
Witness Statement of
Robert O'Donovan

1. WITNESS DETAILS

1.1 My full name is Robert O'Donovan.

2. QUALIFICATIONS

2.1 My qualifications include a HNC in Construction Management, and an Irish Management Institute Leadership Certificate. I qualified as a mechanical fitter in 1992.

3. PROFESSIONAL BACKGROUND

3.1 Mercury Engineering Limited ("Mercury") build and manage complex engineering projects and work across healthcare, pharmaceutical, data centre and semi-conductor sectors throughout Europe. I began working at Mercury in 1996 as a Project Supervisor. I have since held roles of Package Manager, Project Manager, Project Director, Operations Manager from 2017, Health Care Business Director from 2019 - 2023 and Operations Director Life Sciences 2023 to 2025 . I left Mercury on 24 April 2025.

3.2 I have over 30 years of experience in the construction industry and have had senior management involvement with several high-profile projects in the UK and Ireland including the New Royal Hospital for Children and Young People in Edinburgh, Queen Elizabeth University Hospital ("QEUH") in Glasgow, the Bon Secours North Block Extension in Cork, and the New Children's Hospital in Dublin.

4. QUEEN ELIZABETH UNIVERSITY HOSPITAL, GLASGOW

4.1 In November 2010, Mercury started working on the laboratory building at QEUH. We completed this in March 2012. Mercury was involved in the build of the Adult Hospital and the RHS and Energy Centre thereafter ("the Project").

4.2 Mercury was involved in the following stages of the Project:

4.2.1 Stage 1: construction of the laboratories and FM Hub.

4.2.2 Stage 2: design of the Adult Hospital and the RHC to full business case submission, carried out concurrently with Stage 1. This was a full business case exercise.

4.2.3 Stage 3: design and construction of the Adult Hospital and the RHS and Energy Centre.

4.3 Mercury had worked on a hospital project in Peterborough before QUEH/RHC. I was not involved in that project. Multiplex were also involved in the Peterborough project.

4.4 Mercury was awarded Stage 2 of the Project in around December 2010. At this point we had already secured the Stage 1 contract which was to go ahead regardless of whether we received the Stage 2 award. I had very limited involvement in the contractual side of the Project. Ed McIntyre led on that aspect for Mercury.

I was project manager for the installation of the Mechanical & Electrical Services in the Laboratories starting with the pre-construction works in June 2010 and then the building works which started in November 2010 and finished in March 2012. That ran in parallel with Stage 2 of the Project. I am not familiar with the FM Hub.

4.5 I first became involved in QEUH/ RHC in 2010. I was Project Manager for the Mercury work, reporting to Ed McIntyre, who was then the Healthcare Business Unit Director. My role was to oversee the whole project, and this included the mechanical and electrical aspects. Ciaran Kellegher was the Package Manager for water and gas and Sinead Rogan was the Package Manager for ventilation. Both Ciaran and Sinead reported to me. Ed, Ciaran and Sinead no longer work for Mercury.

4.6 I was based on site for the duration of the Project, and I had an office on site. I generally did not know, nor did I need to know, about the granular detail of the work that was being carried out on site on a day-to-day basis. This information would have been held and overseen at Package Manager level. Each Package Manager also had sub-contractors, supervisors, and floor managers working for them and reporting to them.

4.7 ZBP designed the water and ventilation systems. Mercury was not involved in the design of those systems at all. The design team presented its design to Mercury which would typically include drawings, schematics and equipment data sheets. Mercury's engineers would then source the equipment required as noted in the data sheets, and once the equipment was sourced Mercury would submit the details to the design team through Multiplex who would review that information along with the design team and NHS GGC, the Client. Once the relevant teams had reviewed Mercury's submission, we would receive either an "A", "B" or "C" status. This process is known as design verification, which is used to demonstrate that the design has been interpreted correctly.

4.8 If our submission was rejected, we would receive a "C" status, and Mercury would review and make the necessary changes and re—submit the information. If we received a "B" status then there would be minor comments that would need to be addressed, and if we received an "A" grade that would mean that our equipment selection was approved for use.

4.9 If Mercury thought there was any information missing on a design provided to us, or we had a query about a particular design, we would submit a Request for Information ("RFI"). These were sent to the design team through Multiplex, and we would receive a written response or a sketch or drawing in response. The RFI process exists throughout the entire life cycle of a project. The design is always developing and changing so there could be RFIs submitted later in a project. Trackers and logs are usually retained on a centralised system. The Aconex system was the project communication platform for the Project and used for the purposes of uploading RFIs, submittals etc.

ZBP designed the mechanical elements of the water and ventilation systems. Mercury then took ZPB's designs and made sure that they would fit into the space provided. Mercury then created a model using that design. Mercury's role was to make sure that it was possible to construct the design. Mercury would then produce construction working drawings for the installers. The level of detail provided by ZPB in their design meant that Mercury could procure the equipment required. That was done through the submission of Technical Submittals. There was no role assigned to Mercury to critique/comment on the design aspects of the Water/Ventilation Systems. The fast-track construction programme dictated that the Mercury Procurement process proceeded as soon as designs were received. This process involved coordinating the designs for construction, preparing Equipment Technical Submittals, seeking quotations and liaising with the designers. Mercury reviewed drawings but only with constructability in mind and ensuring that the design intent could be delivered. Mercury did not input into any design elements such as air change rates, output or capacity. It was Mercury's understanding that the design had been agreed and signed off by the Clients, and it was therefore Mercury's role to ensure that the M&E aspects were installed and commissioned to design.

The main concerns were securing sufficient design information to progress with procurement & construction.

There were no concerns issued relating to the design of the water systems. RFI's were issued to clarify details of the water systems design for construction.
There were no concerns issued relating to the design of the Ventilation Systems. RFI's were issued to clarify details of the Ventilation Systems design for construction.

4.10 I was not involved in the Reviewable Design Data ("RDD") process or the User Group Meetings.

4.11 I did not sit on the Project Steering Group so cannot comment on its purpose or issues discussed.

4.12 Mercury had and still has a strong relationship with Multiplex. NHS GGC had a good relationship with both Multiplex and Mercury.

I am unable to comment on the specific relationship during the works to Ward 4B in 2015 as I was only involved in the Project for one-month post-handover, at which point I moved on to other projects. However, the relationship with Multiplex during the Project was very good and collaborative. I would not have considered the relationship to be strained.

5. VENTILATION

5.1 I have become aware that single bedrooms were designed with an air change rate of 2.5 air changes per hour ("ACH"), rather than the required 6 ACH. I cannot recall if I was aware of that change at the time of the Project or whether I learned of this afterwards.
The M&E Clarification Log was not prepared or distributed by Mercury.

5.2 Mercury would not have been involved in any decision to change from 6 ACH to 2.5 ACH. That would have been a decision made between the design team and NHS GGC. As explained above, Mercury was presented with the design and we then sourced the materials and equipment required, subject to final approval.

I am not aware of the detail of the agreed ventilation derogation recorded in the M&E Clarification Log. I would suggest that the question related to the specification for areas that required specialist ventilation are more appropriate for the designers.
I am not aware of the location of the restriction to general wards in the derogation.
I am not aware of any risk assessments or decisions regarding the derogation. This would relate to the design, which was not part of Mercury's scope.

5.3 I was not aware of the ZBP Ventilation Strategy Paper until now so am unable to comment on its contents or any action taken or not taken by NHS GGC.

5.4 I was not part of the preparation and submission of the Full Business Case.

5.5 I recall some significant changes which occurred in relation to ventilation. At level 4 of QEUH there was a significant change which happened very near the end of the Project where the design team and NHS GGC decided that they wanted to change both the area and functionality of part of the hospital. I think that related to Ward 4B where the use of the room changed from Renal and Haemato-oncology patients to the Bone Marrow Transplant ("BMT") service. The haematology patients moved to Ward 4C.

Mercury was not involved in any risk assessments or design decisions in relation to the changes made to Ward 4B. Mercury was presented with a new, revised ventilation design for Ward 4B in August 2013 where architectural changes had been made. Using the revised design Mercury then re-coordinated the duct work and other services. That involved removing some duct work and installing new duct work, and a new riser down from the plant room in level 12. (**Bundle 16, Document No.29, Page 1699 referenced**).
I am not familiar with any changes made to Ward 4C.

5.6 These changes were dealt with in the same way as every other aspect of the hospital: Mercury was given new drawings and designs, and our technical team had to work with those to source the required materials. The changes involved moving walls, and it was quite disruptive being so close to the end of the Project.

5.7 There was also a significant change made to level 2 of the RHC, known as the Schiehallion Unit. Mercury was provided with the design specification; we had no involvement or input into the design. There may have also been changes made post practical completion. However, I left site in around February 2015 to work on another project so am unable to comment on those.

The revised ventilation design provided by designers included the addition of Terminal Hepa Filter Units, additional Cross Talk Attenuators and some minor revisions to air flow rates.

5.8 I cannot comment on specific aspects of design of the isolation rooms, other than Mercury was provided with the design and installed the ventilation systems on that basis.

Mercury had no role in providing analysis or comment on the ventilation system design.

5.9 I was not involved in the commissioning of the ventilation system. Mercury engaged a sub-contractor, H&V, to commission the ventilation system.

Mercury installed, tested & commissioned the ventilation systems in accordance with the design provided.
Validation was to be performed by an independent party, but I do not who had responsibility for appointing that party and when it was to happen. Mercury had no control over validation.

6. WATER SYSTEMS

6.1 I recall that there were various discussions related to the use of Horne taps during the process of getting them approved for use. There were several meetings between NHS GGC and the relevant teams. I believe that there were meetings which the owners of Horne attended with NHS GGC and others. I vaguely recall a meeting with the owner of Horne and the outcome of that meeting was to continue using the taps. At that point they were approved for use and would have been installed in around 2013. I have no notes of that meeting so cannot confirm what was the discussed or the justification for the decision to continue to use the Horne taps.

6.2 I was not directly involved in either the commissioning or testing of the domestic water system. However, my understanding is that the water system was filled when it was because of the length of time it was going to take to commission each section of the system. It was a large water system.

The size of the domestic water systems demanded that detailed planning was required for filling, flushing & sterilization of the hot and cold system. There were no concerns raised on this.

As noted above, the filling of the entire water system required detailed planning to ensure all of the necessary aspects were included, flushing, cleaning & sterilization. There were no concerns raised.

The draining & cleaning of the water systems pipework was part of the Flushing/Cleaning/Sterilization Process. Furthermore, there was a regime in place to open taps daily to ensure movement of water.

All water systems require to have their water quality monitored once filled. This regime needed to be put in place when the pipework systems were filled. This included the opening of taps on a daily basis, as referred to above.

The programme for completion of the pipework systems necessitated the testing, cleaning, filling & sterilization activities to be completed in timely fashion. This dictated when these activities took place.

The testing documentation shows that Hydraulic Pressure Tests took place on dates from 15-06-2013 to 14-08-2014. The dates for air pressure testing are currently not visible.

The Testing documentation shows the Hydraulic Pressure Tests took place on dates from 15-06-2013 to 14-08-2014, to suit the construction programme. This was done in accordance with the specified testing requirements and was satisfactory. The testing documentation was provided to Multiplex and uploaded to Zutec. I believe that Mercury retained records of everything uploaded to Zutec.

The hydraulic testing was done by Mercury. It is Industry practice to engage a specialist water treatment company to perform the flushing, cleaning & sterilisation and this was executed by a Pre-Commissioning & Sterilisation Specialist, H&V Commissioning Services Ltd, in accordance with the designer's specification which aligned with BSRIA Standards.

The Method Statement includes a description of how the works were due to be executed, all risks associated with the works and how these were to be mitigated.

The documents recording the filling, flushing, sterilization, & testing were issued to Multiplex and uploaded onto Zutec. Mercury was satisfied by this recording process. Records were kept on site of the opening of taps to keep water moving.

Water testing records were provided to Multiplex/ Zutec. I believe Mercury have retained copies.

6.3 Mercury engaged a sub-contractor, H&V, to commission and test the domestic water system. Mercury pressure tested the water system with air, prior to it being filled with water. After it was filled the system was pressure tested with water and handed over to H&V for flushing and testing. H&V prepared a method statement which Mercury submitted to Multiplex who then approved it. The water system was flushed with water after it was filled, and then it was sterilised with a sterilising agent. After that the system was tested at various outlets and maintained by keeping the water in the system moving. This process was repeated until it was handed over to NHS GGC.

6.4 There were full records of testing and maintenance kept and handed over to NHS GGC at completion.

6.5 I am unable to comment on whether Capita was given the opportunity to witness testing of the water system.

7. ENERGY CENTRE

7.1 I am unable to comment on commissioning and handover of the energy centre.

8. HANDOVER

8.1 I was not directly involved in handover of the water and ventilation systems, but all information which required to be handed over would have been provided to Multiplex by being uploaded to Zutec.

Multiplex oversaw contractual compliance. The Mercury Ventilation & Water Package managers were responsible for providing the necessary testing & commissioning documents. These were signed off by the Multiplex M&E Commissioning Manager. Validation of the ventilation system was provided by an independent third party.

The ventilation & water systems were tested & commissioned in accordance with the design specification and the required documents were issued.

All equipment was labelled on site and Mercury provided all the information requested on Zutec. That was accepted as being complete. However, there was no electronic platform provided for asset tagging. I believe that was to be populated onto GGHB's own facilities management platform.

In the 5-to-6-month period between Practical Completion and patient migration into the building, in my view it would have been prudent for the owner/ occupier to carry out a risk assessment closer to the expected date of migration of patients into the building. Mercury handed over the water system as installed, commissioned and tested, and there was a process in place for turning over the system pre-handover. It was GGHB's duty to keep that going between Practical Completion and migration of patients.

8.2 I am unable to comment on works carried out post-handover as I moved to another project in February 2015.

Declaration

I believe that the facts stated in this witness statement are true. I understand that proceedings for contempt of court may be brought against anyone who makes, or causes to be made, a false statement in a document verified by a statement of truth without an honest belief in its truth.

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

Appendix A

1. Scottish Hospitals Inquiry – Hearing Commencing 13 May 2025 – Bundle 40 – Miscellaneous Minutes from Design and Construction Phase (External Version) - **A52281466**

2. Scottish Hospitals Inquiry – Hearing Commencing 12 June 2023 – Bundle 6 – Miscellaneous documents (External Version) - **A43293438**

3. Scottish Hospitals Inquiry - Hearing Commencing 13 May 2025 - Bundle 33 - NEC3 Supervisor's Reports and Project Supervisors Interface Action Notes (External Version) - **A51769432**

4. Scottish Hospitals Inquiry - Hearing Commencing 13 May 2025 - Bundle 43 - Volume 6 - Procurement, Contract, Design and Construction Miscellaneous (External Version) - Website (External Version) - **A52862169**

5. Scottish Hospitals Inquiry – Hearing Commencing 19 August 2024 – Bundle 15 – Water PPP (External Version) - **A47664054**

6. Scottish Hospitals Inquiry – Hearing Commencing 19 August 2024 – Bundle 16 – Ventilation PPP (External Version) - **A47851278**

7. Scottish Hospitals Inquiry – Hearing Commencing 19 August 2024 – Bundle 17- Procurement History and Building Contract PPP (External Version) - **A49342285**

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

Appendix B

N/A

Scottish Hospitals Inquiry

Witness Statement of

Julie Miller

This statement was produced by the process of sending the witness a questionnaire with an introduction followed by a series of questions and spaces for answers. The introduction, questions and answers are produced within the statement.

Personal Details and Professional Background

1. Name, qualifications, chronological professional history, specialism etc. please provide an up-to-date CV to assist with answering this question. Please provide details of your role working for Multiplex Construction Europe Limited previously, Brookfield Construction (UK) Limited until 21 February 2011 and thereafter Brookfield Multiplex Construction Europe Limited until 31 August 2016 (hereinafter referred to as 'Multiplex') during the time Multiplex was appointed as Contractor in respect of QEUH/RHC, providing details of when you started and left this role, your responsibilities.

A I joined Brookfield Construction on 1st March 2012. My role was as a Mechanical & Electrical Services Manager as part of the M&E team. I moved from the QEUH / RHC project around March 2016. Please see attached CV for my responsibilities.

2. What previous experience or training, if any, did you have to work as Director of Construction? How, if at all, did this experience serve you for the role in respect of the QEUH/RHC?

A I was not employed as Technical Advisor on the QEUH/RHC project by Multiplex nor did my role encompass TA duties. I have previously carried out a Technical Advisors role, but this was when I was employed by Mouchel Consulting.

a) What previous experience or training did you have working as a Mechanical and Electrical Services Manager?

A Whilst I had not had this specific job title previously, I have carried out very similar role

responsibilities and activities with Mouchel Consulting as Technical Advisor and particularly as Independent Certifier where I was involved with witnessing building services for mechanical (predominantly) and electrical elements including Ventilation, Fire Alarm, Nurse Call, fabric related elements, BMS, Lighting etc. I have worked in construction for over 20 years in the same field. I would consider that I have the requisite experience, am dedicated and conscious in terms of detail and can communicate well with different groups of people from clinical staff, sub-contractors, designers whilst also learning from other team members and specialists.

b) Describe the role of Mechanical and Electrical Services Manager in respect of QEUH/RHC. What areas were you responsible for? In particular describe your role in respect of the water and ventilation system at QEUH/RHC.

A I did not have a detailed job description for this role and all the members of the M&E team had allocated floors to work on plus other special areas. I was mainly based on Level 2 and Level 3 including Plant rooms but was also to assist the Commissioning Manager with witnessing activities – particularly ventilation. Because I had a clinical background, I added a different element to the M&E team. The Aseptic suite was a package I managed with one of the managers on the build side; I had some involvement in the Audiology rooms, some elements in Theatres, MRI, CT where I liaised with the Trust. Checked plenum sizes for the Fresh Air intakes, Pressure Relief dampers. I have described my role in terms of working with Capita later in this statement. I also checked the installation of pipework e.g. that directional arrows were correct, that commissioning sets and valves were as per the drawing, smoke and fire damper installations, ductwork installation. As an aside, I was involved in the penetrations with WSP later on. There was a myriad of things including communications with our design teams etc. meetings with our sub-contractors. And anything else that was required of me. In terms of water systems, I did not have much involvement. In terms of the ventilation, I witnessed the commissioning of quite a number of systems (but not the towers) and all the Isolation rooms.

3. Please provide details of any other healthcare projects that you were involved in prior to the QEUH & RHC.

A I have not worked on any other healthcare projects whilst employed by Multiplex however I did work on a number of Hospital Projects whilst employed by Mouchel Consulting. These were Oxford John Radcliffe Hospital, Oxford Churchill Cancer

Centre, St Helens & Whiston Hospital Project, Walsall Hospitals, The Garrett Anderson Centre Ipswich & Greater Peterborough Health Investment Plan (GPHIP). Our roles in those noted were either as Technical Advisor or Independent Certifier.

4. Please refer to **Bundle 43 Volume 3, Document 12, Page 493 at page 3**. The Inquiry understands that Multiplex refers to itself as having 'Specialist Contractor and Design Team staff'. Please explain what having a 'Specialist Contractor and Design Team' means, what this entails, what necessary qualifications/experience the team holds, the relevance of this specialism relative to building healthcare premises.

A I was not involved in the preparation of the PEP document, and I therefore cannot make any comments on it. I can read the document, but any comments would just be my opinion and there are others better placed to respond to these questions.

a) In your opinion, please explain what having a 'Specialist Contractor and Design Team' means, what this entails, what necessary qualifications/experience the team holds, the relevance of this specialism relative to building healthcare premises?

A A Specialist Contractor could or would be a company who had worked in a Hospital Environment previously although this is not essential i.e. things such as building partitions, fire stopping details, flooring, power distribution, lighting circuits, fire alarm, BMS, sprinklers and infrastructure and so on are the same in any building – the difference is in the design but there are also specific systems that only a Hospital would have, such as Nurse Call, specialist ventilation systems, specialist departments and very technical equipment systems. Experience of a Contractor who has worked in this environment before and delivered healthcare projects is extremely valuable. The Design team again, should or would be one that had worked on and delivered a compliant healthcare design in line with the current and up to date relevant standards and legislation, Health Technical Memorandums, Health Building Notes and so on (in this regard the Scottish equivalents). The Design team would be comprised of an architectural practice with Healthcare Planning, a M&E Design team for all elements of the MEP and building services, Site Masterplanning, Landscape Architect, Civil and Structural Engineering, and specialist input for specialist systems. Multiplex also had Design Managers, Engineers of different disciplines etc.

5. On the Multiplex website it states:

'We [Multiplex] have a long track record of delivering world-class hospitals and aged care facilities that enhance wellbeing and safeguard the day-to-day running of existing operations…
Our teams are skilled in the detailed planning and robust scenario-testing required to ensure safety and surety of delivery in highly sensitive environments….
We are experts in delivering state-of-the-art medical facilities in collaboration with our specialist supply chain. Our UK portfolio includes the largest hospital campus in Europe, Scotland's largest children's hospital, and luxury later living accommodation in Chelsea, London.'

a) In delivering world-class hospitals, please explain the level of knowledge and understanding of healthcare regulations and guidance expected of Multiplex staff?

A Multiplex appoint leading consultants that specialise in this field with certified and qualified personnel along with experienced Tier 1 contractors. The resulting detailed design would meet the requisite compliance and standards expected for healthcare and its regulations and guidance. The project is built on the design as signed off and agreed by all parties. I cannot really explain what Multiplex expect of all staff employed on a hospital project.

b) Explain your personal knowledge, understanding and any relevant qualifications in healthcare regulations and guidance?

A I believe I have explained this in the previous section and the inclusion of my CV and working experience both in a clinical setting working for the NHS and working for a consultancy thereafter on healthcare projects.

c) Please explain your understanding of the importance of compliance with healthcare regulations and guidance for infection prevention and control?

A Constructing a healthcare facility is a complex and multifaceted undertaking that requires meticulous planning, coordination, and adherence to regulations and standards. Compliance in the construction of the facilities is not only a legal obligation but also a crucial aspect that ensures the safety, functionality, and success of the facility and a fundamental requirement for creating a safe and effective healthcare environment. Infection prevention and control (IPC) i.e. in preventing and reducing the transmission of infectious diseases is essential to ensuring people stay

healthy and people should have confidence in the cleanliness and hygiene of health facilities and services provided within that facility and how it has been built, operates and maintained.

d) Who from the QEUH team provided Infection Control input and at what stage?

A I cannot answer this question, as I had no involvement with the Trust Infection Control Team or their input or when.

Appointment as Contractor

6. The Inquiry understands that Multiplex was appointed as Contractor to undertake the works for the QEUH & RHC. The works under the Building Contract were to be carried out in stages: Stage 1 (Construct Laboratories), Stage 2 (Detailed design of hospital to FBC submission), Stage 3 (Construction), Stage 3A (Demolition surgical block and landscaping) **(Please refer to Bundle 17, Document No. 12, Page 613)**

a) Describe the appointment process leading up to the Multiplex's appointment as Contractor.

A I had no involvement, nor was I employed by Multiplex at the time of the drawing up of the Contract Documents.

b) Describe your role and remit, in particular provide details regarding Multiplex's role, responsibility and authority in respect of the design and build of QEUH/RHC.

A I did not have a role nor remit to undertake works in respect of the design and build of this project. I was not employed by Multiplex at the time of the drawing up of the Contract Documents.

c) Describe your working relationship with NHS GGC prior to appointment, had you worked with any members of the NHS GGC Project Team prior to appointment, if so whom and when?

A I had not worked with any members of the NHS GGC project team prior to appointment.

d) Describe your working relationship with NHS GGC during the terms of your appointment, including day-to-day dealings with the NHS GGC Project Team, details

of who you worked with and in respect of what matters?

A Shiona Frew, Frances Wrath, Peter Moir. I cannot recall any other particular names. Some dealings would have been with the Aseptic Suite, MRI department and I recall speaking about the floor trunking for the Scanner rooms, X-ray Warning Lights but I cannot remember the detail or everything we would have spoken about.

e) Describe your working relationship with Currie & Brown prior to appointment, had you worked with any members of Currie & Brown who worked on QEUH/RHC prior to appointment, if so whom and when?

A I had not worked with any members of Currie & Brown who worked on QEUH/RHC prior to appointment

f) Describe your working relationship with Currie & Brown during the terms of your appointment, including day-to-day dealings, and details of whom you worked with?

A I can recall David Hall, but I did not have regular day to day dealings with Currie & Brown.

g) Describe Currie and Brown's role and responsibilities in respect of the project. Are you aware of any changes to their role during the project? If so, please explain.

A As far as I am aware Currie & Brown were a Trust appointment to provide Technical Advisory Services. Under the documents provided under Bundle 17, this details their following duties: Project Management, Cost Management, Architectural Design Review, Mechanical & Electrical Engineering Design Review, Civil & Structural Design Review and CDM Coordination however I would not know the full extent of their scope of works nor their full role and responsibilities. I would also not know of any changes to their role during the project.

h) Describe your working relationship with Capita prior to appointment, had you worked with any members of Capita who worked on QEUH/RHC prior to appointment, if so whom and when?

A I had not worked with any members of Capita who worked on QEUH/RHC prior to appointment.

i) Describe your working relationship with Capita during the terms of your appointment, including day-to-day dealings, and details of whom you worked with?

A I can recall Dougie Wilson and John Redman from Capita and Alan Follett. We did not meet every day, but Dougie would have been invited to witnessing of building services e.g. ventilation, damper testing, AHU running and other building services but with other members of the M&E team. John Redman was more fabric/ building side. Allan Follett – also M&E. I was the liaison between Capita (who would raise observations) and Mercury's' Compliance Manager (David Dickie) and Multiplex's Compliance Manager (John Wales).

j) Describe your understanding of Capita's role and responsibilities in the project.

A It is my understanding that Capita Symonds were appointed by the Trust as Consultants in the role of Project Supervisors however I do not know the full scope of works of their appointment nor was I involved in their appointment letter.

k) What role, if any, did Capita have in ensuring contractual compliance?

A I understand that they had general compliance responsibilities but cannot provide any other information in regard to contractual compliance. I have noted elsewhere in my witness statement that Capita raised general queries or made observations on various elements including some compliance elements via their Tracker which included both building as well as M&E items. They would ask for further information on observations raised, or photographs or clarification and would close these observations out when satisfied.

l) Describe your understanding of the role of Mercury's Compliance Manager.

A I do not know the Mercury's Compliance Manager's full scope or role, but he was the QA manager and managed the project in terms of established control procedures, and maintaining accurate Quality Records including installation inspections, testing and inspections, audits and tracking documents and completion matrix. He also liaised with the Multiplex QA Manager. Mercury had their own trackers but would provide responses and evidence to any queries or questions raised by Trust parties or Consultants e.g. Capita or Multiplex themselves.

m) Who did you report to on a day-to-day basis?

A Darren Pike (Project M&E manager) & David Wilson (Commissioning Manager).

n) In respect of other contracts and sub-contractors, explain which contractors and sub-contractors Multiplex had worked with prior to appointment, describe your day-to day working relationship with them, and details of whom you worked with?

A As I was not employed by Multiplex prior to the QUEH/RHC project, I cannot fully answer in respect to which contractors and sub-contractors Multiplex had worked with before but a number of these would have worked on the Peterborough Hospitals Project e.g. Mercury (M&E Contractor); TAC (Nurse Call, Fire Alarm, BMS Controls) and the Design Team. All multiplex staff would have day to day contact with a number of the sub-contractor's dependent on the particular trade specialism and which floor they were based on. Also, meetings on progress and programme, any issues raised and so on. I cannot remember everyone I worked with from the Sub-contractor side but most from the M&E Mercury team both mechanical and electrical, Schneider and commissioning engineers.

o) Describe Mercury's role and responsibilities in respect of the project.

A I cannot fully answer for Mercury's whole role and their responsibilities. I had no involvement in their appointment nor their contract terms or scope of works for which they were employed. They were our (Multiplex) Supply Chain Partner and provide the MEP services for the project.

Review of the 'Works Information'

7. What information was provided to Multiplex to assist with the planning and costing of the project to enable Multiplex to prepare the Contractor's Proposals?

A I am afraid I cannot comment on this as this was not part of my role, and I was not employed by Multiplex at the time these would have been in preparation.

8. The Inquiry understands that NHS GGC provided a list of guidance documents (e.g. SHTM/SHPN) that the design had to comply with, please confirm what elements of the design contained in the Contractor's Proposals, did not comply with guidance, and why and how any non-compliances were highlighted during the tender process and ITPD process?

A This was prior to my joining Multiplex, and it would not have been part of my role anyway.

9. What consideration was given to the impact of any non-compliances on patient safety/infection prevention? At what point, if any, was advice sought from Infection Prevention and Control Staff? If advice was sought, from whom was it sought and what was the advice given?

A I cannot answer this question. This would have been at design stage, and I was neither employed at this time nor would it have been part of my role.

10. Did Multiplex propose any changes to the exemplar/reference design? If so, please provide details of the changes and why?

A I am afraid I do not know. Again, this would have been at Design stage and prior to agreement and sign-off.

11. The Inquiry is aware of the agreed ventilation derogation recorded in the M&E Clarification Log. **(Please refer to Bundle 16, Document No. 23, Page 1662)**

a) Describe Multiplex's role in respect of the proposals leading to the ventilation derogation.

A I cannot answer this question as I had no involvement in this process.

b) What was the reason for the ventilation derogation?

A I cannot answer this question as I had no involvement in this process.

c) Who drafted the M&E Clarification Log and who was responsible for updating the Log? Following updates to the log, please provide details of who the log would have been distributed to?

A I do not know who drafted the log specifically as I was not involved in this process, but it is my understanding that it was part of the Contract documents.

d) What was the scope of the agreed ventilation derogation recorded in the M&E Clarification Log? In particular, was it restricted to general wards only? If so, (a) how is this interpretation evidenced within the documentation; and (b) where is the specification located for areas that required specialist ventilation and isolation rooms?

A I am not able to fully answer this question; those parties involved would be better placed to explain. In reading the log myself, it does not specify what areas (it states Single bedrooms) and my understanding would be that this was for the tower wards;

Specialist areas such as Theatres, Aseptic Suite and Isolation rooms have the compliant air change rates.

e) At the time what concerns, if any, did you have regarding the derogation? Did you raise any concerns, if so with whom?

A No, I did not have any concerns. The Derogation had been signed off as agreed by all parties including the Board and included in the Contract Documents

f) Please explain why you say that the Derogation had been signed off by the Board.

A In Bundle 17, the Contract Document is included. Under Contract Data Part 2 – Data provided by the Contractor (page 748) – Under 1. General, the first point is 'The M&E Clarification Log is set out in Volume 3 of the Employer's Requirement. Volume 2.1 has derogations contained and a status of agreed or not in conjunction with the Board and other relevant parties. I have taken this document as being included with the signed contract documents and therefore agreed.

12. Refer to the ZBP Ventilation Strategy Paper dated on or around 15 December 2009? **(Please refer to Bundle 16, Document No. 21, Page 1657)**

a) What was your/Multiplex's involvement in this document being instructed?

A I had no involvement in this document being instructed.

b) What was the intended purpose of this document?

A I cannot comment on this. I am not a designer.

c) When did you first have sight of this document?

A In this Bundle, I do not recall having seen it before.

d) At any time during you working for Multiplex decision set out in the M&E Clarification log to reduce air change rates from 6ACH to 40 litres per second across the hospital and so not to be in conformity with SHTM 03-01 mentioned to you/ brought to your attention? If so, when and by whom? Please explain the context.

A I do not recall someone mentioning this specifically or at a particular time. I was aware of it but as far as I know it had been agreed otherwise the ventilation would not have been designed for this. Also, I can see that it has been noted as agreed in the same document Bundle as under (f) above where it states 'The proposal is accepted on the

basis of 40 litres per second per single (8 litres per second) for one patient and four others'. It clearly says under the Board column that it does not meet the SHTM but the last column says agreed.

e) Who was the document shared with?

A I cannot answer this question.

f) How was Multiplex satisfied that the proposals set out in the above document were suitable for use in a healthcare setting?

A I cannot answer this question.

g) What concerns if any did you have on reading this document? If so, did you escalate these concerns and to whom?

A I am not able to answer this question as I had not seen this document before.

13. Are you aware of any risk assessments, whether in compliance with the standards in HAI Scribe or otherwise, that NHS GGC carried out in respect of the change in the ventilation strategy that appears to follow the ZBP Ventilation Strategy Paper dated 15 December 2009? **(Please refer to Bundle 16, Document No. 21, Page 1657)**

A This is not something I was involved in, and I am not aware of any risk assessments carried out by NHS GGC.

14. Describe the advice sought, if any, or the involvement, if any, of GGC Infection Prevention and Control staff in respect of the change in the ventilation strategy that appears to follow the ZBP Ventilation Strategy Paper dated 15 December 2009?

A I am not able to respond to this question as I had no knowledge of the GGC IPC staff in relation to this strategy.

15. Who from the GGC Project Team and Board were aware of the ventilation derogation?

A I had no involvement in the derogation process. I do not know specifically who was on the Board or all who were on the Project Team. The usual protocol would be detailed as part of the contractual process and normally no derogation could be presented and accepted unless it had been evaluated by the Trusts' Technical Advisors, their Consultants and the Project Team and signed off as acceptable. It is

written on the Clarifications Log, and this would have been in the Contract Documents.

a) Who do you mean when you refer to the “Trusts’ Technical Advisors”?

A I would be referring to Currie and Brown who were the appointed Board Technical Advisors.

16. How was the ventilation derogation communicated to the wider Project Team?

A I do not know specifically as I had no involvement in this process.

17. What impact did the requirement for a BREEAM excellent rating have on Multiplex’s proposed design in particular in respect of ventilation?

A I was not involved in these requirements and cannot answer this question.

a) From the point you started on the QEUH/RHC project in your role at Multiplex, what importance and value, if any, was attached to achieving BREEAM excellence?

A I am afraid I cannot answer this question as I had no involvement in the element of the project.

18. What impact did the energy usage target of no more than 80kg of CO2 per square meter have on Multiplex’s proposed design?

A I do not know the answer to this question.

19. The Inquiry is aware that Chilled Beam Units were proposed by Multiplex and accepted for use through the QEUH/RHC. What was the basis for Multiplex proposing to use Chilled Beam Units? Is the use of Chilled Beam Units appropriate throughout hospitals? At the time, what concerns, if any, did you have regarding the use of Chilled Beam Units?

A I was not involved in any proposals presented or the proposals process, so I am not able to answer the question. However, reading through Page 1063 of Bundle 17 it notes the following ‘The bidders’ attention is drawn to the Employers Requirements and in particular the following sections: Appendix M&E3 2.4.3 Chilled Beams. The use of active chilled beams should be considered within all ward areas. Active chilled beams will provide tempered, filtered air together with heating and comfort cooling of the space; thus, providing effective local control of the environmental conditions’.

Their use therefore appears to be a response to the ER's.

20. Would it have been possible to achieve the sustainability requirements (BREEAM excellent rating and 80kg of CO2 per square meter) if Chilled Beams were not selected for use in the QEUH/RHC?

A I cannot answer this question; I am not an expert in this field.

Full Business Case

21. Under 'Services Systems' confirmation was required "that the design fully complies with the requirements of the Employers Requirements, M&E appendices 1 to 6, all HTM's, HBN's, SHTM's and current legislation". The Inquiry is aware of several departures from SHTM 03-01 Guidance in relation to air change rates, pressure differentials and filtration requirements. There was also a variation to the primary extract arrangement for PPVL isolation rooms from that set out in SHPN 04 Supplement 01. Was Multiplex aware at the time, of these non-compliances? If so, please confirm how Multiplex communicated these non-compliances to the NHS GGC Project Team. If no action was taken by the NHS GGC Project Team what obligations, if any, did Multiplex have to report matters further and to whom?

A I had no involvement in the Full Business Case or departures from guidance so I cannot answer this question. However, normally if there were changes or departures from the noted guidance, these would have to have been presented, discussed, agreed and signed off as acceptable with the Project Team, their Technical Advisors and Consultants. They would need to be documented as part of the Contract.

22. Was the ventilation derogation noted in the M&E Clarification Log, recorded in the Full Business Case? Who was responsible for doing this? If you were aware that it had not been recorded in the Full Business Case, please explain what action, if any, you took.

A I was not involved in this process, and I am afraid I do not know if the Full Business Case would have been presented before the 2010 ItP document was issued and agreed as I do not know the protocols for this documentation.

Design and Construction and Role in the QEUH/RHC Project

23. The Inquiry understands that ward layouts and Room Data Sheets (RDS) were approved through the reviewable Design Data (RDD) process. Describe your role, if any, in the RDD process and the user groups.

A I had no role in the RDD process or the User Group meetings. Usually, this process is led by the Architects and would be carried out in order to ensure design of the departments and rooms including FF&E layouts are functional and in line with the requirements of the particular department/ward type and fit.

24. How were members selected to be part of a user group?

A I do not know in this case but usually, it would comprise of the project team, departmental or ward manager, senior staff and any specialist occupations that would need to have an input to the layout and functional use of the area. It depends on the specialism of the particular area.

25. Confirm who attended the user groups meetings from Multiplex, the NHS GGC Project Team, IPC, Estates and Clinical teams for the following areas: Ward 4B – QEUH; Ward 4C – QEUH; Level 5 – QEUH; Critical Care – QEUH; Ward 2A & 2B – RHC; PICU RHC – RHC; All Isolation rooms.

A I am not able to answer this question as I was not involved in the process.

26. How often were user group meetings scheduled to review design proposals and agree the design with the user groups?

A I do not know as I was not involved in this process.

27. How were designs and the RDS approved to proceed to construction?

A Again, I do not know as I was not involved in this process. However, the usual procedure is that architectural designs along with the matching RDS's would have an RDD sign-off sheet which the Trust and other requisite parties would sign to confirm that they were approved and at Status A to proceed.

28. How was the ventilation derogation communicated to users during the RDD process?

A I was not involved in the derogation process but normally an M&E derogation would not be presented to users under the Reviewable Design Data process. The RDD

process is generally for the architectural elements and would be part of the Design and Build. A derogation in terms of building services against a recognised standard would need to be agreed prior to drawing issue (as M&E design could change significantly in this instance) and would be subject to specialist technical evaluation and input and consultant and Trust sign-off – not via a User group. User groups are generally for the functionality and layouts of rooms and equipment not building services and environment. This is subject to a more specialist involvement.

29. Please describe how the technical requirements (air change rates, pressure differentials and filter requirements) for each ward were managed and approved during the user group meetings and the RDD process, including your role and involvement.

A I believe I have partially answered this in Question 26 above. User group meetings and RDD are not the route for technical requirements to be decided. I was not involved in these processes as noted previously in this questionnaire. The Design Team would present their design documents in terms of the items noted as part of the drawings and schedules to meet the requirements of the guidance and standards included in the ER's and contract documents. The MEP designs would be reviewed by the Trust, their Technical Advisors, their Consultants and specialists before approving (or not) and signing off the designs accordingly.

30. Were any requests made by the User Groups during the RDD process that were refused – please provide details.

A I do not know as I was not involved in the User Group process or RDD. However, it would be quite unusual to refuse a request unless a piece of equipment could not be accommodated, or the layout would compromise compliance perhaps. This would be very much dependent on the request itself.

31. Please refer to **Bundle 17, Document No.75, Page 2881.** Appendix 3 states: "*Commissioning settings for all elements of the works, including microbiological testing proposals for operating theatres and specialist ventilation… Confirmation that the design team fully complies with the requirements of the Employers Requirements, M&E appendices 1 to 6, all HTM's, HBN's, SHTM's and current legislation*".

a) Describe the intended use and purpose of the following wards in QEUH/RHC: Ward

4B – QEUH; Ward 4C – QEUH; Level 5 – QEUH; Critical Care – QEUH; Ward 2A & 2B – RHC; PICU RHC – RHC; all Isolation rooms.

A I did not develop the clinical output specifications and the clinical specialties of these wards. I cannot recall exactly but I think 4B and 4C were Haematology/ Oncology and Renal. Critical Care was a Critical care ward with Isolation rooms. Ward 2A & 2B Schiehallion and Teenage Cancer Trust – specialist cancer ward facilities and Isolation rooms were Isolation rooms. I do not know how else to describe these areas.

b) At the time, would you have been aware of the intended use and purpose of wards? If not, why not?

A Aside from the Generic In-patient Wards which were generally standardised to flex between medical or surgical patient care in the tower, any other Wards described as specialist e.g. Renal – I would expect the intended use would be for Renal patients & Dialysis; Haematology/Oncology would be for Haematology/Oncology patients; Dermatology for Dermatology patients; Critical Care, Coronary Care or ITU would be for critically ill patients. I cannot comment if the Trust used these wards for their intended use.

c) What were the specifications of these wards?

A It is not clear to me what it is you are asking; please provide further clarification or information.

d) What was your understanding at the time, if any, of the ventilation requirements either or general, in respect of the following wards in QEUH/RHC: Ward 4B – QEUH; Ward 4C – QEUH; Level 5 – QEUH; Critical Care – QEUH; Ward 2A & 2B – RHC; PICU RHC – RHC; all Isolation rooms. If you were not aware, why not? Was this out-with your remit as Mechanical and Electrical Services Manager?

A Level 5 was a General Ward so this would have been designed as per the derogated reduced air change rate; Ward 4B was (as noted above in Question 31 (a)) was Haematology/Oncology but this was changed under the upgrade as noted under Question 35 below. Ward 4C was a renal ward but I was not involved in the commissioning of ventilation on Level 4 and I cannot recall the ventilation requirements. Critical Care, as in CCW had 12 Isolation rooms with 10 ach and 10 Pa positive; the same for Isolation rooms across the building and podium where each

generic ward had 2 Isolation rooms. Ward 2A/2B Schiehallion and Teenage Cancer Trust – specialist cancer ward facilities with Isolation rooms. PICU was the Children's Critical Care which had isolation rooms and general ventilation areas.

e) What guidance was considered in the design of these wards, what processes were in place to ensure guidance compliance?

A I was not involved in the design of the wards, but taking the direction from the Clause 8.2.14.7 Ventilation and air conditioning for the Isolation rooms shall be designed and installed in accordance with (a) SHTM 2025, (b) SHTM 2040 (c) SHPN 4 and (d) NHS Model Engineering Specification C04. As far as I am aware, the rooms were designed according to the guidance. SHTM 03 01 was in draft at the time.

f) Do you accept that compliance with SHTM 03-01 was a mandatory requirement of the contract?

A I believe that it was to be taken into consideration in terms of design. SHTM 03-01 is Ventilation for Healthcare Premises Part A Design and Validation; does not specify isolation rooms. These were covered under SHPN 4 Supplement 1 – SHTM 03 -01 specifically states under Appendix 1 Table A1 – to see HBN 4 Supplement 1.

g) Were there any changes to the design during the design and build, if so, please describe any such changes, describe the impact, if any, on guidance compliance as set out in Appendix 3, and describe the sign off process for any such changes, your involvement and how any changes were communicated to the Board. Was external advice ever sought in respect of design changes?

A I was not involved in changes to designs but normally any changes would have been issued via the protocols set out for changes during a contract; they would have been documented, presented to the Board, Technical Advisors and Consultants for discussion and agreement or not and if agreed, the changes would be signed off by all parties.

h) Were you aware of any changes to the design during the design and build? If so, please describe the changes and the impact, if any, to guidance compliance.

A No, I cannot recall any changes to the design during the build.

32. Describe your involvement and understanding, if any, of the decision to remove carbon filters? What was the rationale behind this decision, who was involved and what advice, if any, was sought in reaching this decision?

A I was not involved in this decision. However, I am aware of a PMI issued by the Trust to remove these from the specification. Please refer to PMI 157 signed by Peter Moir 26/4/2012 which the Board confirmed the deletion of carbon filters for A&C Hospital.

a) Do you recall the rationale behind this decision?

A As I have noted above, I would not know the rationale behind this decision.

33. Were any specialist design workshops required? If so, please provide details.

A I am not sure if you mean for just Ventilation (as the all the preceding questions are related to ventilation) or if you mean any other specialist elements. From memory, there was for the Pharmacy Aseptic Suite, Audiology Booths, MRI and Radiology perhaps and the Medi Cinema.

34. Were Value Engineering meetings/workshops held during the design phase? Please provide details of any agreed value engineering elements.

A There may have been, but I do not know as I was not involved at the design phase.

a) Please **refer to Bundle 43 Volume 1, Document 32, Page 113**. Is the Inquiry correct in understanding that this document proposes the use of chilled beams in renal dialysis and a reduction in ACH from 10 to 2.5?

A I have never seen this document before but yes, this would be my understanding too.

b) What was the purpose of this proposal, who signed it off from NHS GGC? What risk assessments were carried out in respect of this proposal? What is your understanding, if any, of the impact of this proposal?

A As noted above in my answer (a), this is the first time I have seen this document. I am afraid I cannot tell you who signed it off from an NHS GGC perspective nor can I comment on any risk assessments that may or may not have been carried out.

Ward 4B and 4C

35. The Inquiry understands that Ward 4B in the QEUH was originally intended to provide accommodation for Renal and Haemato-oncology patients. The 2009 NHS Clinical Output Specification for the Haemato-oncology ward stated, “Please note the haemato-oncology ward area has a very specific function and a considerably higher than average requirement for additional engineering support/infrastructure. There should be no opening windows, no chilled beams. Space sealed and ventilated. Positive pressure to rest of the hospital and all highly filtered air >90%, probably best HEPA with adequate number of positive pressure sealed HEPA filtered side rooms for neutropenic patients as in the Beatson West of Scotland Cancer Centre.” **(Please refer to Bundle 16, Document No.15, Page 1595)**. However, following a Change Order Request in July 2013 by Jonathan Best **(Please refer to Bundle 16, Document No.29, Page 1699)** it was confirmed that the Bone Marrow Transplant (BMT) service would transfer to Ward 4B in the QEUH and the hematology patients that were originally planned to accommodate Ward 4B would move to Ward 4C.

a) Please confirm how this change was communicated to Multiplex and how this change was captured in the revised design and specification documentation, following the Change Order Request.

A Following the Change Order Request, and from memory and my understanding, there was a pack of information issued in relation to the Ward 4B upgrade for approval by NHS GGC Project Team. There was a Description of works, Architectural drawings (NA-SZ- 04-SK-332-001-01; 001-03, 002-03 & 003-03; Details of the Light fitting (Mirage MX24), Room Pressure Gauge (Dwyer Magnehelic Gauge Series 2300-60pa); Access Hatch (Profilix Standard Wall & Ceiling Panel; above Ceiling Maintenance requirements. I do not know who this would have been issued to or the approval process.

b) Describe your understanding, if any, of the impact of the change order?

A Both construction and M&E works had to be carried out to meet the requirements of the works for the upgrade.

c) What actions, if any, to assess the feasibility and impact of the change order were carried out by Multiplex?

A As far as I can recall, a feasibility study was carried out with Wallace Whittle to

ascertain how much more - in terms of air volumes – that the Air Handling Unit could achieve to increase the air change rates. But beyond that, I cannot give any more detail as I was not directly involved in the development of the Change Request and drawing together of the pack of information.

d) Please confirm if Multiplex highlighted any risks with the proposal to move the adult BMT Unit to the QEUH.

A I am not able to answer this question as I was not involved in the proposals, and it was not my role.

e) Who would have been involved in the process?

A I am afraid, I really do not know.

f) Did Multiplex advise the GGC Project Team that the requirements set out in SHTM 03-01 relating to air change rates, pressure differentials and filtration requirements would not be achievable in Ward 4B at the QEUH?

A I believe so. In the Description of Works issued to the NHS GGC Project Team, the requirements of what the AHU could achieve was detailed – which is noted as between 5 – 10pa.

g) Do you recall there being any issue being raised by NHS GGC in respect of the pressure differential, air changes or filtration requirements?

A I cannot answer this question as I was not directly involved in any correspondence in regard to these questions or any issues raised.

h) Who approved the lower specification from the GGC Project Team and the Board for the adult BMT service?

A I am afraid I do not know the answer to this question.

i) Why were suspended ceilings installed in Ward 4B given that the original Clinical Output Specification (COS) referred to ‘space sealed’ – did Multiplex raise this as a non-compliance with the ‘Works Information’?

A I am afraid I do not know the answer to this question.

j) Please confirm who approved the reflected ceiling plans for this area.

A I was not involved in the approval process so I cannot answer this question. However usually the process would be that these would have been reviewed as part of the RDD package and workshops were arranged by the Architects for architectural approval and held in the Project Offices and would have been approved by the Board as per the protocols.

k) As construction progressed on site, please confirm if suspended ceilings were highlighted as non- compliant with the COS (works information).

A The Description of Works states that an MF Ceiling would be installed within the 24 bedrooms i.e. the suspended ceiling would be removed (but the ensuites would retain the grid and tile but with the services and tiles silicon sealed). However, I cannot provide any further responses to this question.

l) Why was the suspended ceiling removed?

A Generally, this would be to provide a better seal and less air leakage – which for achieving a pressurisation of any type would be required.

m) Why was no back up Air Handling Unit (AHU) provided for Ward 4B? Who approved this decision? And what strategy was agreed for PPM or equipment failure?

A Back up Air Handling Units are not common; the SHTM 03 01 under Clause 2.59 states ‘on very rare occasions a duplicate standby air handling plant may be justified…Standby plants can become sources of contamination if warm moist air is allowed to dwell within them’. Even an Operating Theatre does not have a backup AHU.

n) In respect of Ward 4C, what was the specification of this ward at the point of the Change Order? Did you understand that Ward 4C was to be used to house immunocompromised patients? If so, what was the justification from departing from SHTM guidance in respect of ventilation, pressure and filtration requirements and who signed this off?

A As far as I can recall, I did not do any work on Ward 4 C so I cannot answer this question.

o) What was your understanding of the requisite air change rate required in accordance with SHTM guidance in respect of Ward 4B and 4C, and was this the air change rate achieved? If not, why not and who signed this off? What risk assessments were considered in respect of this decision?

A I am not sure on Ward 4C but Ward 4B, I recall that it had been agreed that the room pressures were to be set between 5Pa and 10Pa with a target pressure of 7Pa + or – 1Pa. Pressure readings were achieved between 6.3Pa and 7.9Pa. GGC would have agreed this following the Change Order issued by them and the information submitted for the design and what was able to be achieved. I do not know what risk assessments were considered in respect of this decision.

p) Did you understand the room pressures to be complaint with guidance in respect of the intended patient cohort?

A I assume you are referring to Ward 4B specifically and not room pressures for all isolation rooms. As noted in my answer to Question 35 (o), the pressures were to be set between 5Pa and 10Pa with a target pressure of 7Pa + or – 1Pa.

q) The Inquiry is aware that Ward 4B appeared to be so far off what was required by the patient cohort that the highly unusual event occurred of patients moving in and then having to move out. Can you assist the Inquiry to understand why that arose?

A No, I am sorry, but I cannot answer this question as I was no longer at QEUH when patients were moved into Ward 4B.

r) The Inquiry has heard that Ward 2A appeared to have multiple issues almost immediately after handover and subsequent investigations into the ventilation revealed multiple apparent areas of concern. Can you assist the Inquiry as to how that arose?

A Again, I am sorry, but I do not recall any particular issues at the time.

Ward 2A/ 2B RHC

36. The Inquiry understands that Ward 2A/2B is the paediatric-oncology Unit and includes the Teenage Cancer Trust and the paediatric Bone Marrow Transplant (BMT) Unit - the department is known as the Schiehallion Unit.

a) Confirm your understanding regarding the intended use and purpose of the Ward 2A/2B, what guidance was considered in the design of these wards, what processes Multiplex put in place to ensure guidance compliance?

A I was of the understanding that Wards 2A & 2b were for Haematology & Oncology patients so they would be immunocompromised. Ward 2B had isolation room facilities but the Teenage Cancer Trust had single bedrooms but not isolation rooms and day care facilities. The design for the Isolation rooms and taking the direction from the Clause 8.2.14.7 Ventilation and air conditioning for the Isolation rooms shall be designed and installed in accordance with (a) SHTM 2025, (b) SHTM 2040 (c) SHPN 4 and (d) NHS Model Engineering Specification C04. As far as I am aware, the rooms were designed according to the guidance. SHTM 03 01 was in draft at the time.

b) The Inquiry understands that Contractor's Tender Return Submission by Multiplex, Volume 7 SHTM confirms that ventilation will comply with SHTM 03-01 as a mandatory requirement. Given that this was a mandatory requirement, please confirm whether this guidance was considered in the design of these wards? And if not, why not? Please refer to **Bundle 17, Document No. 11, Page 589**.

A Having looked at the referenced documents, it does state this. However, there was an agreed Derogation for the air change rate to be changed from 6ach to 2.5ach. This was for the General Wards. Any specialised ventilation requirements, to my knowledge were compliant e.g. Theatres. Isolation rooms under the SHTM 03 01 references the SHPN 1 Supplement 4 as noted previously.

c) What changes, if any, were made to the design during construction? Please describe any such changes, describe the impact, if any, on guidance compliance, and describe the sign off process for any such changes and your involvement. Was external advance ever sought in respect of design changes?

A I am not able to answer this question as I was not involved in the design process.

d) Describe the IPC involvement in the design of Wards 2A and 2B, who was involved and who signed off the final design and when?

A I would not know who was involved in terms of IPC as this would have been at the design stage and I did not have any role in this. The design had already been agreed and the rooms were built to the design.

e) Who from Multiplex would have been responsible for carrying out the risk assessments for the air change rate in respect of Ward 4B and 4C?

A I am afraid I do not know but a risk assessment for this responsibility would surely have needed to be carried out by the Hospital Trust not Multiplex in the first instance.

f) What concerns, if any, did you have regarding the final design specification of Wards 2A and 2B, and what action, if any, did you take in respect of these concerns?

A The final design specification had been signed off as agreed by the NHS GGC Project Board, their Technical Advisors and Consultants. As such, I did not have any concerns.

g) Who from Multiplex would have been involved with the final design specification of Wards 2A and 2B?

A I cannot answer this question as I do not know but any final design specification would have had to have been agreed by the Hospital Trust and Project Board – it would not be a Multiplex decision to determine this kind of clinical criticality.

37. What was your understanding of the requisite air change rate required in accordance with SHTM guidance in respect of Ward 2A and 2B, and was this the air change rate achieved? If not, why not and who signed this off? What risk assessments were considered in respect of this decision?

A Ward 2B Schiehallion was at 10 air changes and yes, this was achieved. I cannot recall the air change rate for Ward 2A.

Isolation Rooms

38. Describe how the number and location of the isolation rooms was agreed? Who approved the final number and locations in the QEUH and RHC?

A In the documentation there is a number of references to Isolation rooms and numbers. Under 8.2.14 ITPICD Volume 2 Bundle 16 Page 1529 it states that ‘Each 28-bed ward within the Adult Acute Hospital will be provided with a single isolation room. The Children’s Hospital will be provided with two isolation rooms per 28 bed ward’. Point 8.2.14.6 notes to Refer to draft SHPN 4 and drawings G1274 M (57) 02 & 03. I did not see these drawings. The only locations and numbers of isolation rooms

I am aware of were on the signed off and agreed drawings and the rooms were built according to these drawings in those locations. They were as follows: Ground Floor OBW.053 & 048; Level 1 CCW 100, CCW 104, CCW 084, CCW 067, CAR 013, CAR 014, CCW 051, CCW 165, CCW 157, CCW 078, CCW 242, CCW 025, CCW 245, CCW 111, CCW 140 & CCW 241; Level 2 ARU 111 & ARU 106; Schiehallion Ward SCH 009, 013, 018, 019, 068, 071, 075 & 064; Level 3 GW3 055, GW3 051, GW2 055, GW2 020, GW1 053 & GW1 058; Level 4 RENW 044, 043; HOW 031, HOW 029, HOW 026, HOW 024, HOW 021, HOW 020, HOW 017, HOW 015 HOW 012 , HOW 011, HOW 009, HOW 067, HOW 064, HOW 062, HOW 059, HOW 058, HOW 055, HOW 053, HOW 050, HOW 202, HOW 198, HOW 195, HOW 193, HOW 190.

a) Who approved the final number and locations in the QEUH and RHC?

A As per Question No. 38 above, I do not know who approved the final number and locations in the QUEH & RHC.

39. Who was responsible for producing the drawings and the specification for isolation rooms; who approved these from the NHS GGC Project Team?

A The Architects would have produced the setting out drawings, the FF&E layouts, the elevation drawings, the finishes drawings, fire strategy drawings, doors, glazing, general arrangement drawings and the Room Data Sheet. The M& E designers would have produced the ventilation strategy, the schematics, the AHU schedules, the grille schedules, the ductwork drawings etc. All would have followed the Clinical Output Specifications and followed the SHTM's, SHBN's and other guidance as specified in the Contract Documents. I cannot give you names of those who approved the drawings. The Architectural set would have gone through the RDD process. MEP drawings do not follow the same route but would have gone to the Trust, their Technical Advisors, Ventilation Safety Group, the Trust Consultants for review and sign off approval.

40. What concerns, if any, did you have regarding isolation rooms and compliance with SHTM/HTM? What action, if any, did you take in respect of any such concerns?

A I did not have any concerns; the design had been agreed and signed off by the Board, the TA and Consultants.

41. The Inquiry has reviewed the RDS in excel format and notes that there is an entry under 'Design Notes' relating to Ward 2A isolation rooms, the entry states:

"WARNING NOTICE: This room is based on a theoretical design model; which has not been validated (see paragraph 1.8 of HBN 4 Supplement 1). Specialist advice should be sought on its design. The lamp repeat call from the bedroom is situated over the door outside the room."

a) Was this note entered on the RDS? If so, why and by whom?

A It is on the Status A Room Data Sheets issue for the Lobby areas to all the Isolation rooms in Schiehallion. The RDS are drawn up by the Architect, so they would have added this note. I do not know why this note would have been added. However, the Design Note has been taken from the 2005 Edition of HBN 4 Supplement 1 and it has not been added in full. The Clause 1.8 actually says 'The guidance on isolation suites in this supplement is based on a theoretical design model. The model will be validated in the near future, and the results published in a separate document. The aim of this supplement is to provide practical guidance on how to provide isolation facilities that are simple to use and meet the needs of the majority of patients on acute general wards'. The RDS should have noted this clause in full and not just an extract as it gives a false impression. In future editions of that HBN, this clause is no longer in the document. It really should have referred to the SHPN 4 Supplement 1 not HBN. The 2008 Version of the SHPN notes that the guidance on isolation suites in this Supplement is based on a validated design model etc.

b) What specialist advice was sought relating to the design of these rooms

A Advice would have been sought from the Multiplex M&E designer and consultants (ZBP).

c) What was the final agreed design for isolation rooms and who approved this?

A Please refer to Question 40 below. I believe this answers the same question.

42. Why was the main extract placed in the patient's bedroom and not the ensuite as outlined in SHPN 04 Supplement 01? Why was this change requested, who requested this change and who approved this from the NHS GGC Project Team?

A In the SHPN 04 Supplement 1 under 4.4 Basic Design parameters, Table 1 there is a case for the Ensuite where is states Extract Air Flow (for a room of this size) under Nominal Design Values 'If extract is fitted in the isolation room this reduces to 45l/s in

the en-suite with 113l/s extract in the isolation room. This is how the rooms were designed. The drawing with this design was signed off by David Hall. Also, under the ER's Page 1726 of Bundle 16 Specialist Systems, it states as follows: Each lobbied isolation room is provided with its own dedicated ventilation system in line with SHBN 04. Air is transferred to the room via a wall mounted pressure stabiliser and then extracted from the suite via the bedroom and ensuite WC, and ducted by fire clad ductwork to a dedicated fan in the plantroom etc. The ER's have noted extract via the bedroom as well as the ensuite. I am not aware that this constitutes a change as the design is in line with the SHPN and the ER's.

a) The Inquiry has been advised that Multiplex decided that in PPVL room the main extract should be in the bedroom not in the en-suite as recommended in Guidance. Who made that decision, how was it communicated to GGC, if it was agreed by GGC who did so and how was that agreement recorded?

A I am sorry but I believe I have already answered this question under 42 above.

Water and Taps

43. Describe your involvement, if any, in respect of the decision to use Horne taps.

a) What concerns, if any, did you have regarding the use of Horne taps?

A I do not know as I was not involved in this decision.

b) Who from Multiplex would have been involved in this decision?

A I am afraid I do not know and cannot answer this question.

c) What risk assessments were carried out in respect of the use of Horne taps?

A I do not know as I was not involved in this process.

d) Who was involved in, and who signed off the use of Horne taps?

A I do not know as I was not involved in this process.

e) Did you attend the meeting regarding the use of Horne taps in 2014**?** If so, why was the decision made to proceed with Horne taps?

A I do not know as I was not involved in this process.

f) Did the use of Horne taps depend on thermal disinfection? If so why, if not, why not? What action, if any, was taken regarding this, and your involvement, if any?

A I am not able to answer this question.

44. Are you aware of the water system having been filled prior to handover on 26 January 2015? If so, who filled the system, why was it filled and what concerns, if any, did you have. If you had concerns to whom did you escalate these concerns?

A I was not involved in the water systems; so, I am not able to respond to this question.

a) To clarify your answer, is the Inquiry to understand that you were not aware of the water system being filled prior to handover?

A No, I simply meant that I did not have any concerns as I was not involved in this process so cannot be specific. However, I believe the system was filled as it would have had to be demonstrated that the flow and return temperatures met parameters, water samples which have to be taken were within parameters and clearly showed that the system had been flushed and dosed and given that the temperatures at the terminal units had to be demonstrated to be within tolerance then water would be required to prove this. It would be needed to be filled too, in order to check for leaks prior to lagging and then a flushing regime put in place.

Commissioning and Validation

45. In respect of commissioning and validation please confirm the following:

a) Describe your role in the lead up to commissioning. What action, if any, did you take to ensure that the wards within RHC and the QEUH met the guidance requirements of SHTM?

A Any witnessing of commissioning systems that I carried out were in line with the agreed and signed off design.

b) How did you ensure that commissioning, as witnessed by you, was carried out in line with agreed and signed off design?

A Each system that was witnessed by myself e.g. ventilation for a particular area or department, had a commissioning pack of information issued. In the case of an Air Handling Unit, there would be a front sheet detailing the System Reference (the AHU

number) and its location plus a summary of the Work Completion and performance; followed by schematics of the area and the grilles and their reference numbers served by this particular AHU, plant schematic, Fan Test sheet, Design data reference i.e. the Performance Details which would include the Designed Flow Rate, Duct size, Duct area, Measured flow rate, % of design, Average Velocity and Static pressure as measured. Traverse Details taken and witnessed as accurate; Also included in the pack was the Terminal Balance Test Sheet with all grille references, any correction factors applied, Design Flow rates for each grille, Measured Flow rate, and Percent Design %. Any traverse measurements that I witnessed I would record on the sheet or in my notebook, I would also check the calculations for the traverse details at the time. Any grille measurements I witnessed, I would also record against the design details on the sheet or in my notebook. We would also have the design drawings with us to check against. If any readings were not within the design parameters, they would be recorded and amended on the spot if this could be done or there would be a re-visit to ensure it was correct thereafter. Each separate system would follow the same procedure. I would sign the pack only after the witnessing was complete and if there were no re-visits to carry out. If I was witnessing fire damper drop tests or smoke damper activation, I would record the numbers of the dampers tested which would include the location on the design drawings and correct numbering; in the case of smoke dampers, these were activated from the Smoke Damper panels. Both types of dampers would have been seen as closed. Smoke Dampers and the actuators seen operating correctly and opening on signal plus numbers checked on the panel to correspond with the ID numbers in the walls. For Isolation rooms, these were witnessed on an individual basis but with the same information but including checking the magnehelic gauges showing 10 pascals achieved.

c) Describe what commissioning of the water and ventilation system took place prior to handover, and your involvement, if any.

A I cannot answer for the water systems as I did not commission these services. I did witness a number of ventilation systems including the isolation rooms. This was a full system witness i.e. the Air Handling unit being set running, traverses and volumes on each of the branches, downstream sampling of grilles across the floor and whichever departments were served from a particular AHU. AHU's put into automatic with the inverters, set dampers locked etc. In the case of the isolation rooms each room has an individual AHU so all were witnessed including the setting up of the magnehelic

gauges at the room entrance.

d) Who from Multiplex was responsible for commissioning the water systems of the QEUH/RHC?

A Our commissioning manager would have overseen this element but the commissioning itself would have been by H&V Commissioning who were the specialist sub-contractor under Mercury (for Water systems and Ventilation).

e) Who was responsible for ensuring that commissioning of the water and ventilation system was carried out, and who signed off that it had been carried out?

A There was a commissioning company employed to commission and balance these systems (H&V Commissioning). Multiplex witnessed and Capita were invited to attend if they wished to sample. A member of the Multiplex team would sign the commissioning sheets of any systems that were witnessed. Commissioning paperwork would have been issued for systems commissioned.

46. Clause 6.8.2 of the Employer's Requirements requires the Contractor to provide a Final Commissioning Programme setting out details of all commissioning tasks, including the timing and sequence of events. This was also to include the relevant testing and commissioning elements of other parties, such as the Control of Infection Officer, the Supervisor and the Independent Commissioning Engineer. **(Please refer to Bundle 16, Document No. 13, Page 1357)**

a) Was the Final Commissioning Programme prepared? If so, by whom and who was it shared with? If not, why not?

A Yes, each area had its own Commissioning Programme and there was a Global commissioning programme. The Commissioning Manager prepared them (David Wilson). My understanding was that it was shared with the Board and their consultants etc. however I do not know how it was issued out.

47. Clause 6.8.4.2 of Employer's Requirements states that the Contractor was required to arrange, "all factory testing and shall furnish the Board, its Project Manager and its Supervisor with the opportunity to witness all factory testing and sign off marked items of Plants and Materials. The Board, its Technical Advisors and the Supervisor shall be given fourteen days notices of such testing." **(Please refer to Bundle 16, Document No.13, Page 1357)**

a) Was Capita given the opportunity to witness all factory testing and sign off on marked items of Plants and Materials?

A I believe they were. Capita Symonds did witness the Generators in the factory test in 2012, also the Bender UPS in Italy, the Whitecroft lighting visit including the Trust (2011 as I can see some emails on these topics). However, I was not part of the process so cannot advise who issued the invitations and arrangement and what plant and materials were witnessed.

b) If Capita was given the opportunity to witness all factory testing, please describe the process.

A I am not able to answer this question.

c) Was Capita given opportunity and did they witness the factory testing you were involved in?

A I believe they were, however, as I have noted above in Question 47 (a), I did not witness any factory testing as I was not involved in this process.

d) If Capita was not given the opportunity to witness all factory testing, why not? How did this impact, if at all, Capita's role as NEC3 Supervisor?

A I am not able to answer this question.

48. The Inquiry understands that NHS GGC decided to forgo the requirement to have an independent commissioning engineer. Who made this decision? What was the rationale behind this decision? What was the impact, if any, of this decision? In hindsight, do you think that it was the correct decision?

A I am afraid I cannot answer this question in full. The Board issued a PM Instruction #2073 which is within Bundle 16, Page 1698, signed by Peter Moir but I would not know the reason why.

a) Did you/Multiplex have any concerns about your/its ability to demonstrate and certify to the Board the successful completion of all commissioning, testing and compliance with all relevant standards in relation to the ventilation system given that the ventilation system was not checked by an independent third party as recommended by the guidance. If so, please describe these concerns. If not, why not?

A I can only confirm that the systems I witnessed (I do not commission) were in

accordance with the agreed and signed off design. I have responded to the third party query under other questions in this statement below and the systems were commissioned to be in an operating condition but the validation process is to prove the system is fit for purpose and achieves the operating performance originally specified. This is not usually done 'in-house' and I quote from the SHTM 'Validation should therefore be carried out by a suitably qualified independent Authorised Engineer appointed by the Health Board' i.e. a third party and not something that the main contractor would do.

49. Please refer to Bundle 15, Document 7, Page 606. SHTM 04-01, part E states that, "any pipes delivered unprotected or with open ends should be rejected". The Inquiry understands that Capita highlighted on a number of occasions that pipework was being left open during the construction work making them vulnerable to contamination. What was done to rectify this issue? Was such pipework subsequently rejected?

A Both Mercury and Multiplex had compliance managers, and the Capita Observations were issued back to both parties for response and actions (if required). In terms of the pipework issue, I was not personally involved in any remedial actions, so I am not able to fully respond to the question. However, in usual circumstances, if pipework ends were left open (not good practice), the system has to be tested for leaks (air) before anything else, then it would be flushed and disinfected before the system is filled, water samples would be taken to ensure the water quality is compliant to requirements and that the results thereafter are clear before being put into use. System would be subject to a flushing regime until results issued and continue to be flushed regularly until the system would be handed over.

50. Was the energy centre commissioned prior to NHS GGC taking occupation of QEUH? If so, describe what you know about the commissioning of the energy centre. Provide details of the intricacies in relation to its completion.

A I believe so. I did not have a lot of input to the commissioning of the Energy Centre, but the generators were tested and operational, HV system up and running, the CHP / Boilers, Chillers etc. otherwise the Hospital would not have had power, lighting, heating and cooling and hot and cold water.

51. Describe your involvement, if any, in the decision for the energy centre to be retained by Multiplex following handover. What as the rationale/when was the energy centre handed over to NHS GGC, and what was your involvement, if any? Describe your knowledge and understanding, if any, of a payment being made by NHS GGC to Multiplex in respect of the energy centre following the same being handed over.

A I am not aware of any of this; I cannot therefore answer the question.

52. Please describe what role Multiplex had, if any, in ensuring that validation was carried out? Was this required to be carried out prior to handover? If so, by whom? The Inquiry understands that validation was intended to be carried out by an independent party. Did this happen? If not, why not?

A I assume you are referring to Validation of the ventilation as opposed to any other validations as it is not clear in the question. If this is in relation to ventilation, please see questions 52 and 56b below. The SHTM 03 01 (draft) under Section 8, it states that Validation of these systems should therefore be carried out by a suitably qualified Independent Authorised Engineer appointed by the Health Board. I cannot answer as to why the Board did not carry this out.

a) Did you advise NHS GGC of its obligation to organise the independent validation of the ventilation system prior to the handover of the QEUH/RHC? If not, why not?

A It was not part of my role to advise this to the Trust. They would be aware of their obligations under the SHTM.

Handover

53. Describe your role in the lead up to NHS GGC accepting handover.

A I undertook witnessing of a number of commissioning elements e.g. a number of ventilation systems, Isolation room witnessing of all component parts, fire damper testing and checking, smoke damper checks and testing, Aseptic suite, colt smoke extract operation, Helipad fire extinguishant operation, BMS point to point testing, checking operation of the Surgeons Panels, X-ray warning lights operation & interlocks, generator testing, some public address witnessing; I am afraid I cannot recall every detail for that time.

b) At the point of handover, how satisfied were you that all areas of QEUH/RHC accepted by NHS GGC, were designed to the intended specification and suitable for the intended patient cohort, meeting all the relevant guidance requirements?

A As far as I am aware, QEUH/RHC was built to the approved designs and guidance as agreed by NHS GGC.

c) How were you assured that all areas of QEUH/RHC accepted by NHS GGC, were designed to the intended specification and suitable for the intended patient cohort, meeting all the relevant guidance requirements if you knew that validation of the ventilation system had not been carried out?

A This question is very similar to the question above (53 (b) and I can only reiterate my answer. In terms of validation requirements, the SHTM refers to specialised ventilation systems (which a general ward would not fall under). However, it would be up to the NHS GGC to undertake validations by a 3rd party on any ventilation system they wish but certainly any specialist areas such as Theatres, Aseptic Suite, Isolation rooms. Part of the commissioning process gives the system performance in terms of Design (air flow rates, air velocities, pressure differentials and control functions). If these are achieved, then the air change rate is confirmed and differential pressures where applicable. The system is in an operating condition. The validation process is to prove the system is fit for purpose and achieves the operating performance originally specified. This is not usually done ‘in-house’ and I quote from the SHTM ‘ Validation should therefore be carried out by a suitably qualified independent Authorised Engineer appointed by the Health Board’ i.e. a third party and not something that the Contractor would do.

d) How were you assured that the wards met the requirements of the specific patient cohorts?

A As far as I am aware, there were no areas that did not meet the requirements of the specific patient groups that were intended to be used for.

e) Were any wards not handed over, or only partially handed over, please confirm. If so, why they were they held back? Was there any financial consequence to both Multiplex and NHS GGC of the ward(s) being held back? What works were carried out in order to allow this ward(s) to be handed over to the NHS GGC?

A As far as wards not being handed over or partially handed over, I cannot recall this

occurring. As far as I remember all wards were handed over. I cannot comment on financial consequences – this is a commercial question.

f) Describe the process for approving the defects listed on the Stage 3 Sectional Completion Certificate (Please refer to Bundle 12, Document No. 3, Page 23) Who saw the Stage 3 Section Completion Certificate before it was signed? Why was the Stage 3 Sectional Completion Certificate signed when there were a number of outstanding defects listed?

A I am afraid I do not know who would have seen the Stage 3 Sectional Completion Certificate as I was not involved in this, and it was not part of my role.

g) Do you think that the Stage 3 Sectional Completion Certificate accurately listed all of the defects with the QEUH/RHC? If not, please describe the inaccuracies.

A I do not know the answer to this as I did not see the Stage 3 Sectional Completion Certificate. When you say Defects (which can suggest that the item is unfit for purpose) but they could also be classed as 'Snags' but either way, Multiplex and their sub-contractors would have to close the snags and defects out following the usual agreed process.

54. Who oversaw contractual compliance? Who was responsible for ensuring that the paperwork was produced to confirm contractual compliance? What action, if any, did you take to ensure that paperwork was in place to ensure contractual compliance? Was validation of the ventilation system a contractual requirement? If so, who signed off on contractual compliance given the lack of validation?

A There were compliance managers on both sides – John Wales for Multiplex and David Dickie for Mercury for instance. They collated all the relevant paperwork and certification for all elements as far as I am aware. These should be on record as well as commissioning paperwork. In terms of the Ventilation Validation, I do not know if it was a contractual requirement. It usually is carried out by a 3rd Party. SHTM 2025 Part 2 (2001) notes in 6.66 that 'The installed system will be required to meet the performance standard set out in Part 3, Validation and Verification. Part 3 under the Introduction gives comprehensive advice and guidance to healthcare management, design engineers, estates' managers and operations' managers on the legal requirements, design implications, maintenance and operation of specialist ventilation in all types of healthcare premises. Under SHTM 03 01 (in draft at the

time), contains a Design and Validation Process Model. Step 6 of this model states How will the system performance be validated? The next column Design Statement and Information required: Validation methodology, Instruments used, Design Information required (Design air flow rates, Design air velocities, Pressure Differentials, Noise levels, Air Quality, Installation Standard). As it is unlikely that 'in-house' staff will possess the knowledge or equipment necessary to validate critical ventilation systems - Under Section 8 of this SHTM, it states that Validation of these systems should therefore be carried out by a suitably qualified Independent Authorised Engineer appointed by the Health Board.

55. Explain what the Building Contract says about a retention period in which some money would be held back pending completion of the QEUH/RHC. In doing so, please explain if the retention period was enforced?

A I am afraid I cannot provide a response to this question as this is really a Commercial & Contractual item and this was not my role.

56. Who was responsible for providing asset tagging. Why was there no asset tagging? Who decided to proceed without it?

A I am afraid I do not know the answer to this question. It was not part of my role.

57. Did you consider it appropriate for the handover of QEUH/RHC to take place when the energy centre was not operational due to design issues? Did you appreciate at the time of handover that it would take almost a year before the energy centre was in a position to be brought online?

A I am not aware that the Energy Centre was not operational at handover. The Hospital could not have operated without the Energy Centre being brought on-line. The Generators, Boilers, CHP plant, the HV power, Chillers, Water tanks etc. were demonstrated as being operational. The generators, for instance, were operational as I saw these running when they were operated under testing. The Hospital would not have had power for distribution boards for power & lighting, or hot water or ventilation plant running or heating or cooling if the Energy Centre was not operational. Perhaps this is referring to a specific element or piece of kit and not the whole Energy Centre.

58. The Inquiry understands that no validation was carried out in respect of the ventilation system of QEUH/RHC prior to handover. When did you become aware of

this? How did handover come to be accepted without the ventilation system being validated? Who was responsible for this and who signed off on this?

A I believe I have answered this under Question 52. However, In terms of the Ventilation Validation, usually is carried out by a 3rd Party. SHTM 2025 Part 2 (2001) notes in 6.66 that 'The installed system will be required to meet the performance standard set out in Part 3, Validation and Verification. Part 3 under the introduction gives comprehensive advice and guidance to healthcare management, design engineers, estates' managers and operations' managers on the legal requirements, design implications, maintenance and operation of specialist ventilation in all types of healthcare premises. Under SHTM 03 01 (in draft at the time), contains a Design and Validation Process Model. Step 6 of this model states How will the system performance be validated? The next column Design Statement and Information required: Validation methodology, Instruments used, Design Information required (Design air flow rates, Design air velocities, Pressure Differentials, Noise levels, Air Quality, Installation Standard). As it is unlikely that 'in-house' staff will possess the knowledge or equipment necessary to validate critical ventilation systems. Under Section 8 of this SHTM, it states that Validation of these systems should therefore be carried out by a suitably qualified Independent Authorised Engineer appointed by the Health Board.

59. Describe Multiplex's involvement in works carried out following handover. Describe the nature of these works, whether remedial or new works, the cost and responsibility of payment of these works, details of who instructed the works and when.

A I have to assume that you are referring to Snags / Defects following handover. There was a QA system (IDMS) that recorded numbers of 'defects' prior to handover on the Mercury elements per departments / rooms and remedials, fixed and outstanding on a weekly basis. At handover and as part of the Contract, there would have been a formal record list agreed of outstanding 'Defects' (although I was not party to the Contractual side). After handover, there was an FM First Summary with event numbers, locations, Room type, Issue description, Date received, Sub-Contractor dealing with the issue, MPX person responsible, Comments and Date when closed. As far as I am aware, Multiplex would have been responsible for anything associated with these works and costs would be sub-contractual. The works could vary from a faulty light switch, a fault on a fan on the BMS, room stat not working, power not at a circuit to a new pump which needed replacing. There would be too many to record

here.

60. Describe the build condition of the QEUH/RHC as at Final Defects Certificate (CI 43.3) Completion of Whole Works – Stage 3 Adults and Child's Hospital and Energy Centre dated 26th January 2017 **(Please refer to Bundle 12, Document No. 113, Page 848)**.

A I am afraid that I am not able to answer this question as the Final Defects Certificate is not something that I would have been involved with and I cannot make any comments.

DMA Canyon

61. Prior to handover, who was the Duty Holder in respect of the water system at QEUH/RHC?

A I cannot answer this question as I do not know.

62. What responsibility, if any, did Multiplex have in respect of carrying out L8 testing prior to handover? If Multiplex had such a responsibility, was the L8 testing carried out and by whom, and where would the records of the testing be sorted? Were these records made available to NHS GGC?

A I am not able to answer this question as I was not involved in the carrying out of the testing.

63. Who became Duty Holder when NHS GGC took handover of the QEUH/RHC site on 26 January 2015?

A I am afraid I do not know the answer to this.

64. SHTM 03 01 remains an obligatory part of the contract except insofar as derogated from. Is it not your/ Multiplex's job to ensure that what you/ Multiplex deliver complies with it?

A I can only reiterate that I witnessed the systems as per the agreed designs which as far as I am aware were compliant.

65. Do you have any further information that you consider relevant or interest to the Inquiry?

A No, I do not think I have anything else to share with the Inquiry.

Declaration

66. I believe that the facts stated in this witness statement are true. I understand that proceedings for contempt of court may be brought against anyone who makes, or causes to be made, a false statement in a document verified by a statement of truth without an honest belief in its truth.

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

Appendix A

A50091098 - Bundle 12 - Estates Communications
A47664054 - Bundle 15 - Water PPP
A47851278 - Bundle 16 - Ventilation PPP
A49342285 - Bundle 17 - Procurement History and Building Contract PPP
A52449706 – Bundle 43 Volume 1 - Procurement, Contract, Design & Construction, Miscellaneous Documents
A52706440 – Bundle 43 Volume 3 - Procurement, Contract, Design & Construction, Miscellaneous Documents

Julie Miller

Contact

[redacted]

Mobile [redacted]

Email:

[redacted]

Work History

M&E Manager March 2016 - Current Peterborough City Hospital

Relocated from the Glasgow Project to Peterborough to assist with the Fire Remedials Project on all 3 sites. She was responsible for closing out the works at The Cavell Centre and City Care Centre, thereafter the remaining works in the Acute Building. Following this, she was involved in all Trust Variations, both large and small, from inception to completion. This encompasses both building fabric and building services. Her most recent project involvement, which is on-going, is the construction of two new 36 bed wards on the fourth floor with the team.

March 2012 – March 2016

Julie joined Brookfield Multiplex in March 2012 as part of the Mechanical and Electrical team. Initially she assisted their Design manager, reviewing drawings against Board comments and then moved onto the M&E team. Her roles included internal fit-out for a number of levels in the New Southern General Hospital, Glasgow A&C building, commissioning responsibilities, client liaison and working with our sub-contractors. Handover was in January 2015 and Julie remained behind as part of the 'soft landings' team to ensure that the migration of the hospital and the ensuing NHS commissioning went smoothly. She dealt with the NHS board, clinical and nursing staff as well as

FM on a daily basis She was responsible for the M&E defects close out and PMI's.

Backgrou
nd

Julie originally comes from a clinical / healthcare background in the NHS specialising in pharmaceutical services both as a Pharmacy Manager and Technical Services in an Acute hospital. She left the NHS in 2002 following the handover of the new hospital project where she was the Departmental Lead for the Pharmacy commissioning team and ward migration. She joined a consultancy on their Health Team for the Addenbrookes PFI Hospital Project on the bid team which then became preferred bidder. Julie produced all the room data sheet (RDS) for the whole hospital project, participated in the user group co-ordination process and drawing updates with the Architects and contractor.

After leaving that company in 2004, she was a Principal Consultant for a Management Consultancy for over 8 years and led their services in the areas of Independent Certification/Testing and Technical Due Diligence commissions where she co-ordinated, evaluated and produced due diligence reports for all stages of the competitive dialogue process and earlier PFI structured projects. This also involved meeting the banks' technical and financial sectors and PFI contract reviews. Julie has delivered a range of major projects in both the Health and Education Sectors. Her skills also extended to bid and tender production, costing and resourcing for these commissions.

Brookfield Multiplex role New Southern General Hospital:	M&E manager with an emphasis on specialist areas; compliance reviews; design checks; commissioning. Ownership and delivery on site for the fit out, area completion and sign off for L2 Adults, L2 and L3 Children's; Aseptic Suite; Specialist areas including Radiology / MRI. Quality & Compliance with Mercury / BM Compliance Manager and liaison with Capita to close out defects and observations. Co- ordination with design consultants TUV-SUD in terms of workshops and reporting along with updating of associated schedules and closing out of issues. Monitoring and responding to RFI's and their close out. Julie also took over the construction element of Cores / Penetration co-ordination with WSP /BM / Mercury. Carried out regular H&S site inspections and followed the Brookfield SHEQ policies. Issue instructions to sub-contractors via commercial team Review and comment on sub-contractors RAMS.
Skills:	Independent Certification; Technical Due Diligence; Technical compliance Audit; Able to develop and sustain strong client relationships; experience in working in commissioning of M&E and building services; Working on all aspects of a project including construction elements; Able to work well under pressure or to tight deadlines without losing quality of work; A proven track record of working in new sectors and taking on new challenges. Very capable and self-motivated with excellent interpersonal and communication skills. Committed to her job and takes professional and personal pride in doing so.
Qualifications:	Bachelor of Humanities (B Hum) (Hons). BTEC in Pharmaceutical Sciences Level 3; Royal Society of Arts (RSA) Diploma

	Business Studies Site Management Safety Training Scheme (SMSTS) CSCS

Sector	Project name/ Location		Completion date
Health	New Southern General Hospital		2015
	St Helens & Knowsley PFI project		2012
	Northern Ireland Health Group – The Acute Hospital for the Southwest (Enniskillen)		2012
	Walsall Hospitals Redevelopment Project		2008
	Pembury Hospital PFI Project		2008
	Oxford Churchill Cancer Centre		2010
	Greater Peterborough Health Investment Plan (GPHIP)		2012
	John Radcliffe PFI Hospital Project, Oxford		2006
	Garrett Anderson Centre, Ipswich Hospital		2007
	Leicester LIFT (2 Health Centres)		2011
	Sandwell LIFT (1 Health Centre)		2011

Education	South Tyneside and Gateshead BSF (STaG) Independent Certifier (IC) for 10 schools under the Building Schools for the Future Programme (BSF) and a Health Centre under the same scheme.		2012
	Nottingham BSF Independent Certifier 7 schools under the Building Schools for the Future programme.		2011
	Tameside BSF Technical advisor for two PFI schools under the Building Schools for the Future programme.		2011

Other information:	NHS Accreditation for Pharmacy Final Checking NHS NVQ Trainer for Pharmacy Assistants

Scottish Hospitals Inquiry
Witness Statement of
Andrew Percival

Personal Details and Professional Background

1. My name is Andrew Percival. My address for the purposes of this Inquiry is c/o BTO Solicitors LLP, One Edinburgh Quay 133 Fountainbridge Edinburgh EH3 9QG. I have been provided with a questionnaire by the Inquiry and asked to provide answers to those questions. I have also been provided with access to three bundles of papers totalling 8646 pages. Where I am unable to recall details, or think others may be more appropriately asked, I have said so. My professional qualifications are BSc MCIBSE MIMechE. I graduated in 1982 and have worked in Building service consultancy for over 40 years.

2. I was involved with the QEUH/RHC project from May 2009 until January 2013 when ZBP went into liquidation. I was employed by ZBP as a Senior Mechanical Associate. My role in the project was to manage the in-house design production and co-ordination with the other professional disciplines. The design production involved ensuring the ZBP in-house mechanical team were working to the agreed programme and the review & comment on design drawings. Co-ordination involved ensuring spatial fit of the building services with the architects, structural engineers and other professional members of the design team. On being made redundant at ZBP I was immediately employed by Wallace Whittle (who later traded as Tuv Sud) in the London Office. However, I had no further direct involvement in the project. I retired from Wallace Whittle in August 2024.

   During my career since leaving and prior to joining ZBP I worked on a number of hospital projects of various sizes & complexities. These were mainly in Southern England albeit more recently (2022/24) on the Monklands Replacement Project in Lanarkshire.

Involvement at QEUH/RHC

3. During my time at ZBP they were employed by Multiplex to produce a "stage 2" and then "stage 3" (the scope of these design stages as set out in the documents agreed between ZBP & Multiplex) building services design for the new hospital. These documents formed the basis for the scope and detail of the designs, which I managed, to be produced by the ZBP in-house teams. The partner responsible for the project, Steve Pardy dealt with agreeing the details of the appointment.

Employers' Requirements

4.

(a) I have been asked if I knew who was responsible for providing the requirements for the Clinical Output Specifications (COS) or who approved them. I was not involved in that process and my understanding is that these documents came from the client. I do not know if anyone from ZBP was involved in this process and my understanding is that the COS are the responsibility of the client.

(b) I am afraid I do not know who was responsible for setting out what the relevant NHS guidance was for the project. I was not involved in that process and my understanding is that this information/confirmation came from the client. I do recall, but cannot be certain, that with regards the ventilation, the early design used the then current SHTM 2025 before the issue of the draft SHTM 03-01 which we were then advised to use. I do not recall when this change came about or who issued the instruction to use the new draft SHTM.

I am referred to **Bundle 17, Document No. 62, Page 2359** and specifically to clause 1.11(d) of Appendix 2, Schedule 1 (specifically page 2403), which sets out that the Consultant is obliged to "comply with the Employer's Requirements and the Contractor's Proposals". I am asked to describe what steps ZBP took, if any, to ensure that the built hospital complied with relevant

guidance such as SHTM and SHFN? I cannot recall the precise process undertaken by ZBP at that time but with any healthcare project the guidance documents are used to guide & clarify for the engineer the clients' required design requirements for a particular application.

(c) I have been asked about BREEAM but I do not recall that being applied to the project. Any discussions on energy targets would have involved Steve Pardy and other members of the ZBP team. It was my and the mechanical team's responsibility to engineer the solutions to achieve the energy targets that had been agreed, not to set the energy targets.

I don't recall whether other ZBP team members may have been involved in discussions about energy targets. In any case ZBP would not have set the targets only advised as to whether they considered they were achievable or not. The targets are a matter for the client.

(d) I was not involved in the decision-making process with regards the maximum temperature variant and so do not know who was involved with the process or what risk assessments were made. It was my, along with the mechanical team's, responsibility to engineer the design criteria that had been agreed. I would suggest, but cannot be certain, that this decision was related to help achieve the energy targets. I am afraid I do not know which other ZBP team members may have been involved in discussions about the maximum temperature variant. In terms of benefits, the primary benefit of removing the maximum temperature variant is the assistance it provides to the overall efficiency of the installation.

(e) I was not involved in the decision-making process with regards the use of chilled beams and so do not know who was involved with the process or what risk assessments were made. I recall, but cannot be certain who had them, discussions with various chilled beam manufacturers/suppliers in considering their use before the decision was taken. My understanding was that NHS guidance at this time accepted the use of chilled beams but that has subsequently changed. It was my, and the mechanical team's, responsibility to

engineer the design solution that had been agreed. I would suggest, but cannot be certain, that this decision was related to help achieve the energy targets.

It is likely, but cannot be certain, that Steve Pardy may have been involved in the discussions regarding the use of chilled beams.

(f) Given this element of the design was circa 15 years ago I cannot recall for certain who provided this information. However, on any healthcare project this type of data would need to be confirmed by each of the departmental clinical specialists. On more recent health care projects the building services team have been involved, to a greater extent, in discussions with the clinicians, but I don’t recall it being done for the QEUH.

(g) I do not recall the process of HAI-SCRIBE being applied to the project, but it may have been dealt with by other members of the ZBP team although I do not know who that would have been. I would only have got involved if it impacted on the co-ordination and production of the design. I am aware of the process from a more recent project and that involved the members of the team responsible for the energy modelling calculations.

Design and Specifications

5.

(a) I am not familiar with the term 'patient cohorts'. I don’t recall the detailed requirements for each Ward or the references to wards such as 4B, 4C, Level 5, Critical Care in QEUH or Ward 2A and 2B or PICU in RHC being used at the time of my involvement.

(b) Given this element of the design was circa 15 years ago I cannot recall for certain the details, if any, provided in respect of what immune compromised or infectious patients were to be treated at the hospital. I can add nothing else to the answer.

(c) As indicated in item (b) above, given this element of the design was circa 15 years ago, I cannot recall but the design was provided to the clients' requirements.

(d) I do recall design changes during my time on the project but they would have been design development. By this I would include development of the design to achieve the energy targets together with any design related requirements that may have come from the client's clinical team. With regards the latter I do not recall specific instances with this project.

6. I do not recall that when I was involved in the project where HEPA filtration was to be employed in the ventilation design and for which Ward. I was not involved with the project during most of its construction or the installation of the building services so cannot comment on what happened at handover or sign off. I do not recall what, if any, specific procedures were in place for ZBP to challenge decisions on placement of HEPA filters in the QEUH/RHC ventilation system.

Currie and Brown, Contractors, NHS GGC Project Team

7. I was not involved in the appointment of ZBP so I had no involvement with Currie & Brown in this respect. I had not worked with them before and only recall a representative (I don't remember the name) being present at some of the design meetings I attended. What little dealings I had with them in these meetings was standard.

8. I do not know how Currie & Brown were appointed. I had very little contact with them and I cannot comment on their role and responsibilities or whether changes were made to that over time.

9. During my time on the project, I was involved with design team meetings with Multiplex & Nightingales on the discussion on the progress of the design and

spatial co-ordination aspects of the building services design in connection with the architecture and other disciplines. The working relationship was no different from other projects that I have worked on. I did not have any involvement with Capita during my time on the project. Multiplex were the main contractor and thus ZBP's client on the project. Nightingales were the architects and designers on the project.

10. Prior to the ZBP appointment to the project I had not worked with NHS GGC.

11. I do not recall having any direct involvement in working with NHS GGC other than attendance at some early user group meetings which may have been post the ZBP appointment although I cannot recall the timing of them. Attendance at these meetings was shared amongst the ZBP team dependent upon the hospital department under discussion and the availability of suitable individuals. Those meetings that I attended were satisfactory. The members selected for any particular group would be selected depending on whether they knew anything about a particular part of the project under discussion. I was never involved in the RDD process and cannot comment on that at all. I can provide no further information on this.

12. On a day-to-day basis I reported to Steve Pardy at ZBP.

Competitive Dialogue

13. I was not involved with the competitive dialogue phase of the project. ZBP were working for Multiplex and I would assume that Steve Pardy had any discussions in this respect.

Ventilation Derogation

14. The document referenced (Bundle 18, Volume 1, Document 8, page 205) is the bid submission which would have been based upon the 'early days' architectural design. I assume specifically that this question relates to pages 311 & 312 of the bundle which is an extract from part of the bid submission referring to the proposed ventilation strategy. I recall that some of this document would have been produced by the ZBP Team, some by the architect and other professional disciplines. The ventilation section would have been produced by ZBP. The lead engineer for each discipline would have written the submission with other senior members of the team reviewing the content. On reading the conclusion of this section there was some contradiction as to whether a mixed mode or mechanically ventilation system was to be employed. In this situation I would have assumed that this must have been discussed further with the client as the design was developed.

15. I was not involved in compiling the M&E Clarification log so am unable to comment on the detail. I believe Steve Pardy may have been involved in these discussions.

(a) As stated above I was not involved with the clarifications log and so cannot respond to the three questions. It would appear from the log (Bundle 16, Document 23 at page 166) that the Board has agreed with the clarifications so it would be assumed that they believe the design criteria stated to be clinically acceptable at that time.

(b) As stated above I cannot comment on compliance as I was not involved with the discussions and compilation of the clarifications log.

16. As can be seen from the document reference Steve Pardy was the author of this paper. I understood that Steve Pardy had discussed and agreed the contents in detail with Multiplex and the Board. My involvement was to incorporate this agreed strategy into the design of the mechanical services.

17. As I was working in the team under Steve Pardy, I would have been aware that a document was being drafted. I do not specifically recall when but assume that Steve Pardy probably discussed the engineering impact with me & the engineering team of employing this strategy into the mechanical services design.

(a) As stated above I understood this strategy had been agreed with the Board so had no reason to raise any concerns.

(b) As stated above I do not recall having been involved in compiling the strategy paper or any associated calculations.

(c) As stated above I understood this strategy had been agreed with the Board so had no reason to raise any concerns.

(d) As stated above I understood this strategy had been agreed with the Board so had no reason to raise any concerns.

(e) As stated above I understood this strategy had been agreed with the Board and so it was to be used as the basis for the design of the Wards.

18. Ventilation design in a health care environment is driven by the requirements of the Board's clinical team and this includes the level of temperature control and ventilation required to prevent infection. The engineer's role is to put the clinical requirements into practice.

19. The SHTM at that time were considered as guidance (I believe attitudes have since changed) and followed if deemed acceptable to the clinicians' deviations or derogations would be employed. In this case, as stated above, I understood this strategy had been agreed with the Board and I would have expected clinical needs to have been taken into account.

20. I had no contact with Wallace Whittle during my time on the project and so cannot comment on the items raised in this question. I suggest Steve Pardy may be aware of the level of contact with Wallace Whittle.

21. 21.

(a) When designing any building it is a basic requirement that a minimum amount of fresh air is provided to a space based upon the estimated occupancy. This minimum ventilation requirement covers the provision of oxygen for respiration, removal of the products of exhalation, removal of body odour, unwanted heat & moisture. The strategy document confirms this compliance set out in both the Scottish Building regulations and CIBSE codes.

(b) Please refer to item (a) above as the same criteria applies to the use of the CIBSE codes.

(c) As stated above these documents deal with minimum fresh air requirements. As stated previously, I understood that this strategy was signed off by the Board, who are the infection control specialists, so, as is usual after sign off the client is deemed to be satisfied that the ventilation was providing the necessary level of infection control based upon which clinical functions were to be undertaken in the space.

(d) Please refer to my response to item (c) above.

22. Being employed by ZBP and not having been party to the discussions on the strategy paper I am not aware of risk assessments carried out by the client.

23. I was involved in managing the team that did the ventilation design for the isolation rooms but cannot recall, given this was circa 15 years ago, the details of the designs to be able to make comment. If there were any deviations from the guidance at that time these would have been agreed, most likely by Steve Pardy, with Multiplex and the Board.

24. As described above my understanding is that Steve Pardy was the ZBP representative in the discussions with the Board on the Ventilation Strategy paper but I do not know how it came to be approved. My responsibility was to incorporate the agreed criteria into the design.

25. I do not believe that there is anything else I can add as I was involved in the early stages of the project and so have no knowledge as to the quality of the mechanical ventilation system installations, the changes that typically take place to designs during the long period of construction in a large healthcare project , prior to occupation, or the quality of the maintenance that was employed once the hospital was handed over.

Declaration

26. I believe that the facts stated in this witness statement are true to the best of my knowledge, information, and belief. I understand that this statement may form part of the evidence before the Inquiry and be published on the Inquiry's website.

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

Appendix A

A48699205 – Bundle 43 Volume 1 - Procurement, Contract, Design and Construction, Miscellaneous Documents.
A48235836 – Bundle 18 – Documents referred to in the expert report of Dr J.T. Walker – Volume 1 (of 2)
A49342285 – Bundle 17 – Procurement History and Building Contract PPP
A47851278 – Bundle 16 – Ventilation PPP

SCOTTISH HOSPITALS INQUIRY

Bundle of documents for Oral hearings commencing from 13 May 2025 in relation to the Queen Elizabeth University Hospital and the Royal Hospital for Children, Glasgow

Witness Statements – Volume 3

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