SCOTTISH HOSPITALS INQUIRY

Bundle of documents for Oral hearings commencing from 19 August 2024 in relation to the Queen Elizabeth University Hospital and the Royal Hospital for Children, Glasgow

Witness Bundle – Other Statement Only – Volume 9

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Scottish Hospitals Inquiry

Witness statement of

Lisa Ritchie

1. My full name is Lisa Margaret Ritchie. I am the National Deputy Director of Infection Prevention and Control for NHS England. Between April 2009 and March 2020, I was a Nurse Consultant in Infection Prevention and Control (IPC) with the Antimicrobial and Healthcare Associated Infections (ARHAI) Group at Health Protection Scotland (HPS) in Glasgow.

2. I studied for a BA(Hons) Nursing Studies at Glasgow Polytechnic, graduating and qualified as a Registered General Nurse in 1992. In 1998 I completed an MPhil in Social Science Research and 1999 a Postgraduate Diploma in Infection Control Nursing, both at the University of Glasgow. In 2017 I completed my PhD at Glasgow Caledonian University, which examined the effectiveness of admission risk assessment and pre-emptive patient cohorting in the control of methicillin-resistant *staphylococcus aureus* (MRSA) transmission.

3. Following qualification in 1992 I commenced my career with NHS Dumfries and Galloway. In 2009 I was appointed to the role of Nurse Consultant in IPC at HPS. In this role I was responsible for the clinical leadership of NHS Scotland's National IPC Policy, Guidance and Outbreak (NPGO) Programme in the ARHAI Group.

4. I moved from my role at HPS to take up my current role with NHS England in April 2020.

5. I did not provide routine, day-to-day support to the IPC Team at Queen Elizabeth University Hospital (QUEH). The provision of an IPC Service is the responsibility of the Health Board. However, ARHAI, and the

broader teams at National Services Scotland, are available to offer support to Health Boards as needed.

Ventilation

6. I would expect the design of the ventilation system at QEUH to comply with SHTM03-01, the national guidance. Any deviation from this guidance should be carefully reviewed and receive written approval from the NHS Board's Ventilation Safety Group. The rationale for any derogation or alternative design strategy, along with its limitations, must be clearly documented. Designers proposing such alternatives must provide comprehensive evidence demonstrating that their proposal ensures a level of safety equivalent to that of adhering to the national guidance.

7. I would not have expected to be informed if the ventilation system did not comply with SHTM03-01, as the expectation is for compliance with national guidance. The responsibility for ensuring that any derogations are thoroughly scrutinised, justified and documented, while meeting the necessary safety standards, lies with the NHS Board.

8. I do not have the specific information required to determine whether non-compliance with SHTN03-01 posed a risk to patients. This assessment would necessitate a detailed evaluation by a qualified expert who can assess the impact of such non-compliance on patient safety.

Horne Taps

9. I understand that Horne Taps are specialised faucets commonly used in healthcare settings, designed for thermostatic mixing, non-touch operation, and ease of cleaning and maintenance. Some models include features to prevent the growth of Legionella bacteria and incorporate flow control mechanisms. The Horne Optitherm tap was procured for all

clinical environments within the new Southern General Hospital site prior to the publication of UK and Scotland-wide pseudomonas guidance in June 2013. The Inquiry has a copy of the pseudomonas SBAR at Bunde 3, Document 1, Page 5, which I believe outlines the advice HPS provided to NHS Greater Glasgow and Clyde regarding the use of Horne taps.

11. I drafted the SBAR on "Pseudomonas Risk: Taps" following a request from NHS Greater Glasgow and Clyde for advice on the Horne taps. The SBAR presented three options and included an HPS recommendation based on the assessment in the document.

12. I do not recall whether I was specifically aware of Horne taps being linked to a pseudomonas outbreak in Northern Ireland in 2012. However, I was aware of that outbreak and the associated neonatal deaths. As a result, HPS produced Scotland-wide guidance, which is referenced in the SBAR.

13. On 5th June 2014, a meeting was held at the request of NHS Greater Glasgow and Clyde to review the situation with the Optitherm taps. I attended that meeting, and a minute of it can be found at Bundle 15, Document 9, Page 692 of the Inquiry's papers.

14. The meeting minutes state, "It was unanimously agreed that, as the taps installed within the new build development had complied with the guidance current at the time of their specification and briefing and given that the hospital was in the process of being commissioned, it should be regarded as being in the "retrospective" category not "new build". There was no need to apply additional flow control facilities or remove flow control straighteners, and any residual perceived or potential risks would form part of the routine management process".

15. I emphasised during the meeting, as recorded in the minutes, “the reasons for incorporating the six critical points in the existing and forthcoming updated Scotland-wide guidance. Risk management was the key. Pseudomonas elimination was the holy grail. Influences on outcomes included commissioning procedures, operational management, seasonal influences and personnel involved. The approach had to be tailored to individual circumstances. There was no fixed rule.”

16. In my statement, I was stressing the importance of including the six critical points in current and future guidance, with a focus on risk management. The goal was to eliminate pseudomonas - a challenging but essential objective. Key factors influencing outcomes include commissioning procedures (planning, procuring and managing services), operational management, seasonal variations, and the personnel involved. The approach to these issues needs to be customised to specific situations, as there is no one-size-fits-all- solution.

17. I do not recall having any further involvement with the taps at QEUH/RHC after that.

Serratia Marcescens

18. *Serratia Marcescens* is a gram-negative bacterium commonly found in soil, water and the digestive tracts of animals. While it is prevalent (common) in the environment, it can also cause infections in humans (people), particularly in hospital settings. It frequently leads to urinary, respiratory and wound infections and is known for forming biofilms on medical devices such as catheters. These biofilms make infections difficult to treat, as the bacterium often exhibits resistance to multiple antibiotics.

19. I recall being involved in the response to an outbreak *of Serratia Marcescens* in 2015 at the Queen Elizabeth University Hospital. While I do not remember the specific reasons for my discomfort during the meeting on 3rd November 2015, regarding the decision to keep the HIIAT score at green, I did conduct a site visit as part of the response. An SBAR report was completed (Bundle 3, Document 2, Page 8).

Mycobacterium Abscesses

20. I provided support in relation to an incident involving *Mycobacterium abscesses*. Health Protection Scotland's role in this incident was primarily supportive, focusing on identifying any lessons learned that could benefit NHS Boards across Scotland.

Stenotrophomonas

21. *Stenotrophomonas maltophilia* is a gram-negative bacterium commonly found in environments such as soil, water and plants. It is an opportunistic pathogen, primarily affecting individuals with weakened immune systems, including those with cystic fibrosis, cancer, HIV/AIDS, or hospitalised patients with invasive medical devices. This bacterium can cause respiratory, blood stream, urinary tract, and wound infections. Notably, *S. maltophilia* is resistant to many common antibiotics, making infections difficult to treat and often requiring specialised antibiotics like trimethoprim-sulfamethoxazole. Its ability to thrive in hospital environments makes it a significant cause of hospital acquired infections, posing a considerable risk in health care settings, particularly to vulnerable patient populations.

22. I do recall cases of *Stenotrophomonas maltophilia* at QEUH in 2017, but I do not remember the specific details. My involvement was limited to receiving reports through the agreed process to HPS for onward reporting to the Scottish Government's HSCD. The actions taken by NHS

GGC are documented in the HAIORT. At this time, I cannot recall my views on the effectiveness of these actions, nor do I remember forming specific opinions on the source of these cases.

Gram-Negative Bacteraemia – Infection Management Team Meetings

23. Effective infection outbreak management relies on clear communication, defined protocols, and transparent collaboration. However, in the IMT meetings for gram-negative Bacteraemia in 2019 inconsistencies and a lack of clarity between management and staff, along with insufficient transparency with HPS, undermined these efforts. Containment measures and monitoring appeared inconsistent, and the outbreak management approach often seemed fragmented, with pre-meetings excluding some NHS GG&C IMT members, fuelling distrust and defensiveness. These dynamics likely caused frustration, disengagement, and conflicts, complicating the outbreak response and delaying decision-making. Meeting minutes often failed to accurately reflect discussions or statements made. It was for these reasons that more than one representative from ARHAI attended these IMT meetings

Peer Review of NHS GGC Infections Surveillance Processes

24. The SBAR (Bundle 27, Volume 11, Document 17, page 89) report highlighted several challenges within the local Infection Surveillance Programme:

i) Lack of routine audits: There was no systematic audit of the quality and reliability of data feeds from local laboratory information management systems to ICNet, potentially compromising the accuracy and reliability of the data.

ii) Unclear protocols for unusual isolates: There was no formal protocol to determine which unusual isolates should be reported to the Infection Control Nurses (ICNs), nor an updated process to ensure medical microbiologists are aware of the alert organisms monitored by the ICNs.

iii) Communication gaps: Potential gaps were identified in the communication between ICNs and the wider medical microbiology community, with no routine updates or consistent notification processes for unusual isolates.

iv) Variability in decision making: There was perceived inconsistency in the advice given by Infection Control Doctors (ICDs), particularly in situations where little published evidence was available, leading to variable risk assessments and decisions.

v) Inadequate processes for certain infection threats: While the response processes for MRSA, SAB and C-. difficile were well-developed, those for other infection threats, as listed in Appendix 13, were less well refined and required further improvement.

24. Overall, these challenges indicate areas for enhancement in data management, communication, and consistency in response procedures within the Infection Surveillance Programme.

Statement of Truth

I believe that the facts stated in this witness statement are true.

Scottish Hospitals Inquiry
Witness Statement of
Shiona Frew

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. Shiona Frew

BA (Hons) Business Administration.

I started working in NHS Argyll & Clyde (NHS A&C) in a variety of administration roles such as:

Planning Department Support Officer (07/2000 – 01/2003),

Project Administration Support Officer – Single System Project Manager (06/2003),

PA to Director of Modernisation & Planning (07/2003 – 06/2005),

PA to Director of Service Strategy & Design (11/2004-02/2005),

PA to Director of Governance & Performance (06/2005 – 02/2006).

I transferred to role of PA to the Project Director NSGH (08/2006) following the dissolution of NHS A&C.

Circa 10/2010 I became the Project Administrator for the New Adult and Children Hospitals Project. In 02/2016 my line manager retired and all his reports including myself were transferred to the Capital Planning Department. I was allocated the post of Quality Control Officer for the department which was a role identified by the Project Director/Director of Property, Procurement and Facilities Management. There was agreement that I would continue to provide administration support for the remainder of the contract with Brookfield/Multiplex and to the other QEUH/RHC campus projects still to be

concluded but that my line management would change to the Senior General Manager within the Capital Planning Department. The role and duties of the Quality Control Officer post were never properly commenced due to ongoing provision of administration support to members of the Estates Department and Capital Planning. I continue to retrieve information from the variety of systems that were in use between 2008 to date such as Aconex, Zutec, A-Site, as directed. My role continues to be of an administrative nature with workload being directed by others. I still possess the same job title that I had in 2010.

Professional Background

2. Professional role(s) within the NHS.

A. Please refer to Q1 above.

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

A. Please refer to Q1 above.

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

A. I have never worked in a live hospital environment – I have been based in office accommodation at Hillington Laundry, temporary office accommodation within the Hillington Industrial Estate, construction site portacabins from circa 06/2010 to 04/2015 when I moved to a variety of other office accommodation on the QEUH campus. In January 2019 I moved to the Administration Building, Gartnavel Royal Hospital site until Covid initiated full time working from home. During the construction of the hospitals, I did however assist Project Managers on their scheduled tours of the hospitals by providing a site induction to their site visitors, ensuring visitors were wearing the appropriate PPE and when required I tagged along on tours as a back-marker to keep the tour group together.

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

A. Please refer to Q1 above. I have never worked in a live hospital environment.

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. The following information is based on my employment history within NHS GG&C since 2006 for direct line management reporting: Alan Seabourne, Project Director (08/2006 – 07/2013), Peter Moir (07/2013 – 02/2016), Heather Griffin, Capital Planning (02/2016) and Hazel McIntyre, Capital Planning (from circa 09/2021).

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. PA to Project Director - A&C Redeployment Team who matched staff members to available posts within NHS Greater Glasgow & Clyde. This was not a post that was included on the list of jobs from NHS GG therefore not a post I chose due to travelling distance.

Project Administrator – Alan Seabourne & Peter Moir following formal interview,

Quality Control Officer – David Loudon, redeployed to other part of his directorate to be line managed by Heather Griffin. This was not a post I chose as it meant more travel time.

8. Had you worked with any of your QEUH/RHC Estates, management or Project Team colleagues before your current role? 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. Prior to my employment in NHS GG (from 07/2006) I had worked alongside Gayle Boggan (recently deceased), who like myself was redeployed to Project Team from the NHS A&C Planning Dept as a result of the redeployment process, I have a vague recollection that Gayle left the Project Team circa Dec 2010. I also knew of Hugh McDerment and Alan Seabourne as they were NHS A&C employees however, I never directly worked with/for them until after my redeployment to Project Team.

Specific role(s) at QEUH/ RHC

9. Describe your role(s) at QEUH; job title and responsibilities including day to day responsibilities, and details of staff who reported to you, who you worked alongside and who you reported to. Please fully describe where the role was in the hierarchy of the organisational structure.

A. July 2006 - PA to Project Director who initially reported Helen Byrne and then to Robert Calderwood following Helen leaving for a new post in London. October 2010 – Project Administrator reporting to Peter Moir (project specific duties) and Alan Seabourne (project team absences/duty sheet completion). Generally my duties included attending meetings/taking notes/distribution of typed notes back to group, organising meetings/booking meeting rooms/organising catering, processing invoices for payment, staff absence recording on payroll system, liaising with the contractor Document Controllers to obtain/return documents which required NHS review, diary management, preparing presentations/reports as directed, general IT support, supporting Peter Moir to update Sypro, carrying out site inductions for NHS staff and NHS consultants/contractors, being a back-marker on site tours, photocopying/filing/scanning of documents and administrator for project generic email addresses.

10. When did you start your current role?

A. Please refer to Q1 and Q9 above

11. Describe how you came to be appointed to this role?

A. PA to Project Director – NHS A&C Redeployment Process where a small team matched all staff members to available posts in NHS Greater Glasgow. Project Administrator – Alan Seabourne & Peter Moir following formal interview, Quality Control Officer – David Loudon, redeployed to other part of directorate to be line managed by Heather Griffin.

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

A. PA to Project Director – none. Project Administrator – I was already carrying out an administration role within the project team so worked to Alan Seabourne and Peter Moir. Quality Control Officer – worked in the Project Team during the period David Loudon held the position of Project Director.

13. 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 role remained as Project Administrator as other QEUH campus projects and the Stage 3a contract were taking place on the QEUH campus. From handover the team was split up and I remained with 3 project team members who were not involved in the commissioning, migration or operalisation of the hospitals i.e. Peter Moir, Hugh McDerment and Graham Forsyth.

14. What were/are your duties in this role?

A. No change to duties as still administrative to Stage 3a of the project and other QEUH Campus projects which were underway, processing invoices, attending meetings to take notes, etc. I did, however also provide ad hoc administrative support to the migration process by preparing the daily contact lists during the patient moves. I also administered the dedicated email account on behalf of Ian Powrie who managed the Risk and Method Statement (RAMS) approval process for the NHS procured contractors i.e. delivery and install of ATMs, patient entertainment system, CT injectors. I also administered the Project Team generic email account.

15. Who did you report to in this role? Detail superiors/superiors for this role.

A. Peter Moir – Deputy Project Director, Graham Forsyth – Senior Project Manager, Hugh McDerment – Senior Project Manager for QEUH Campus Projects, Fiona McCluskey – Senior Nurse Adviser for Migration activities,

David Loudon – Project Director/Director of Property, Procurement and FM for QEUH Campus Projects and Ian Powrie – NSGH Technical Liaison/Energy Lead for the approval of RAMS.

16. What was your relationship like with your supervisor in this role.

A. I believe I had a very good working relationship with all my superiors

17. Provide details of staff who reported to you, and you were responsible for in this role, and your relationship with them.

A. No day to day responsibilities for other staff.

18. Provide the name and role of any managers you worked with. Please provide their Job (s) and role responsibilities.

A. NHS only: Alan Seabourne – Project Director, David Loudon – Project Director/Director of Estates & Facilities (Designate), Peter Moir - Deputy Project Director, Heather Griffin - Project Manager (Adult), Mairi Macleod – Project Manager (Children), Frances Wrath – ASR Programme Manager, Karen Connelly – FM Lead, Fiona McCluskey – Senior Nurse Adviser, Hugh McDerment – Senior Project Manager, Ian Powrie – NSGH Technical Liaison/Energy Lead, Alistair Smith – Technical Manager, Annette Rankin – Infection Control Nurse, Jackie Barmanroy – Infection Control Nurse, Eleanor McColl – HI&T Programme Manager, Mark Greig – IT (do not recall his actual job title), Sam Sudesse – Project Manager, John McGarrity – Medical Physics, Andy Barnes (do not recall his job title), Gibby Donnelly - Fire Officer (do not recall his actual job title), Gordon Beattie – Head of Procurement, Robert Stewart – Deputy Head of Procurement, Anna Baxendale – Head of Health Improvement & Inequalities, Mark McAllister – Community Engagement Manager and Graham Forsyth –Senior Project Manager.
To a lesser extent: Helen Byrne – Director of Acute Services Strategy and Planning, Alex McIntyre – Director of Estates, Mary Anne Kane (Alex's deputy who then became Acting Director of Estates (I do not recall the actual job title) Morgan Jamieson – Project Medical Director (Children), Jane Peutrell –

Project Medical Director (Children), Stephen Gallagher - I cannot recall his actual job title, Annette Turnpenny – Project Manager (Equipping), Lorraine Peebles – I cannot recall her job title however this would be Laboratory and FM Building related, Alan McCubbin – Head of Finance, Tony Cocozza – I cannot recall his job title however he was Finance. The job titles I have provided is my best recollection given the handover of the hospitals was over 9 years ago.

19. How was communication between you and your colleagues? Wat communications issues, if any, arose with them?

A. I believe that communications between myself and colleagues were good. We worked in an open plan environment so I could easily ask if there was anything I was uncertain of and could easily request assistance from other colleagues when needed.

20. How was work delegated in your team?

A. Everyone had their own role and specific duties. There was a weekly project team meeting which was noted and actions from the meeting would identify which team members were responsible for the actions. Within the administration function workload was generated and directed by superiors.

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

A. For tasks/actions delegated to me - I would write to-do lists and cross off items as they were complete and red flag email requests until they were complete. I would also occasionally add reminders to my Outlook calendar for activities such as the distribution of notes. When I completed tasks allocated to myself I would provide feedback to the superior who had allocated the task. For tasks/actions delegated to others within the team – if these were recorded on notes of meetings then an update on actions would be discussed within the next meeting and the notes updated accordingly.

22. How did you check that the work delegated had been carried out?

A. Those delegating the work would check – that wouldn't be by myself unless someone had covered some of my workload during any periods I was not at work. In these instances that person would give me an update on what had happened while I was off and any actions to be transferred back to me. The administration team provided cover for each other during periods of absence.

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

A. I don't recall personally working closely with any other teams/departments as that was not my role. The Project Team included reps from Estates, Facilities, Nursing, Community Engagement, Capital Planning, Infection Control, Procurement, Medical Physics, IT, TA Team and Project Supervisor Team. Depending on activity to be undertaken may have led to me working closely with any of those reps until the activity was complete.

24. Please describe your working relationship with these QEUH teams or departments (including areas of hospital work on).

A. I believe I had a good working relationship with everyone I came into contact with.

25. Did you have any concerns about any member 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.

26. Did you have any concerns/ ever raise any concerns regarding management/ managers? 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.

27. Describe the interpersonal relationships within your team. How would you describe communication between you and your supervisor(s)/ superior(s)? How would you describe communication to you from those you senior to you/ supervised you?

A. I believe that interpersonal relationships were good with everyone I communicated with whether it was face to face, by email or by telephone.

28. How many occasions, if any, did issues arise caused by misunderstandings or poor communication?

A. I cannot recall any occasions.

Training

29. What formal training or qualifications do you have in of the following:

a) Water

A. None – my roles are administrative - non-technical and non-clinical.

b) Ventilation

A. None – my roles are administrative - non-technical and non-clinical.

c) Infection Control

A. None – my roles are administrative - non-technical and non-clinical.

d) 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.

A. n/a

30. What specific roles or duties did you have in relation to water systems operation or maintenance? How long did you have these roles and duties?

A. None - my roles are administrative - non-technical and non-clinical.

31. Were you aware of any specific legal responsibilities/ obligations when working with the water systems. If so, please provide additional information.

A. I do not recall. In my administration role I may have been present at a meeting(s) to take notes when responsibilities/obligations may have been discussed however being non-technical any actions would be for others to undertake and by and large I did not have the knowledge to understand the significance of actions.

32. If you did not have any roles or responsibilities in relation to the water systems operation or maintenance:

a) Who did?

A. I assumed this was within the remit of the Estates dept. As I did not work within the Estates Dept I had a very limited knowledge of the Estates organisational structure.

b) What were these responsibilities?

A. I assumed that they would have responsibility for ongoing maintenance of the water systems however I do not know what this entails as my role was administrative (non-technical).

c) What did you understand the responsibilities to be?

A. I did not have an understanding. Please refer to my response to Q32b above.

d) Were you aware of any specific legal obligations/ responsibilities? If so, please provide additional information.

A. I was not aware as my role was administrative and non-technical.

33. What specific roles and duties did you have in relation to the ventilation systems operation or maintenance?

A. None – my roles are administrative and non-technical.

a) If you did not have any roles and responsibilities in the ventilation systems operation or maintenance, who did?

A. I assumed this was within the remit of the Estates Dept. As I did not work within the Estates Dept I had a very limited knowledge of the Estates organisational structure.

b) What were these responsibilities?

A. I assumed the responsibilities would be to carry out ongoing maintenance however I have no knowledge about who would carry this out or what this entailed.

c) What did you understand the responsibilities to be?

A. I did not have an understanding about who would actually carry out maintenance activities or what the activities would entail.

d) Were you aware of any specific legal obligations/ responsibilities? If so, please provide additional information.

A. I was not aware as my role was administrative and non-technical.

34. 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. None – my roles are administrative - non-technical and non-clinical.

Documents, paperwork and processes in place as at 26th January 2015

We know that physical handover of QEUH/RHC, and practical completion of the build occurred on around 26th January 2015:

35. What contractual documentation would you expect to see in place at handover?

A. I did not have an expectation. I believe this would have been initially set out in the Employer's Requirements and subsequently by agreement between David Loudon and Alaistair Fernie. I have a vague recollection that there were conversations about Zutec which was how the NHS would receive the handover documents from Brookfield/Multiplex. I recall being in attendance at a few meetings where there was discussion about the completion criteria for the hospitals. There is a Completion Criteria document.

36. Describe the process for handover of QEUH:

A. My recollection is that reps from NHS, Capita, Currie & Brown and Brookfield had a walkround of the hospitals in the morning. A few items were identified (don't know which items) that were incomplete, and Brookfield agreed to put these right. A further walkround of the building was scheduled for later that day. Following the second walkround later that day the Project Team were advised that the hospitals had been handed over.

a) What contractual documentation was in place?

A. Not sure – Ian Powrie may be able to confirm as he had access to the Zutec system and he was the conduit between the Estates Dept and Project Team in his role as Technical Liaison Lead.

b) How was the relevant paperwork handed over to QEUH?

A. I do not know what the relevant paperwork would consist of. I cannot recall any specific paperwork however I had been in attendance at various meetings as the note taker at which an O&M Manual for the hospitals and the Zutec

system was discussed. Given the passage of time I cannot recall any specific details. The Completion Criteria document may give further information.

37. Was the building of the QEUH complete at handover – if not, what was incomplete? Was QEUH ready at handover? If not, why was it not ready at handover? Refer to **Estates Communication Bundle, document 3** – 'Stage 3 Adult and Children's Hospital Completion Certificate' defects noted therein when considering this question.

A. As far as I can recall, the hospital stage of the contract was not complete at handover as a list of the incomplete works was included in the Completion Certificate documentation as per document 3 which was provided to Brookfield/Multiplex. Given I had an administrative role (non-technical and non-clinical) I am unable to comment on how each of the listed incomplete works had an impact on whether the hospitals were ready or not at handover.

38. What validation was in place?

A. I do not know what validation was in place at handover or what validation information should be reasonably expected at handover.

39. Describe the site when QEUH/RHC at handover in January 2015.

A. I cannot accurately provide a description given the passage of time. I have a vague recollection that some of the external works were to be finished however do not know if these were part of the stage 3 or 3a works. The adult hospital atria did not have any shop facilities as yet (these were not part of the Brookfield/Multiplex contract). The hospitals generally seemed complete, clean and tidy however there were some areas that still had to be cleared of fit out materials.

40. Did Multiplex remain on site? How was this managed, and were records kept of Multiplex staff being on site, if so who was responsible for this and where were such records kept? Did you have any concerns?

A. As far as I recall a number of Brookfield/Multiplex reps for the hospitals

remained on site until the decommissioning of the site portacabins. Thereafter those not actively involved in other QEUH campus works moved to rented office accommodation in Govan.

a) If Multiplex remained on site following handover what was their role?

A. Not sure what is meant by this question. They were still the contractor for the stage 3a works and works to another building on the QEUH campus. For the hospitals they were investigating reported snags and undertaking necessary work to resolve snags, undertaking water management (running taps) and I believe providing assistance to NHS procured installations as and when requested. David Loudon/Ian Powrie/Peter Moir may be able to provide information in answer to this question. I was not involved in the handover or NHS commissioning of the hospitals.

b) What work did they carry out?

A. Please refer to my response to Q40a. My recollection is that they were carrying out the stage 3a works and associated demolitions, resolving building snags/defects and carrying out NHS instructed changes and water management (running taps).

c) What, if anything, did Multiplex run or manage, either formally or informally for any areas/ parts of the hospital?

A. I do not think I was privy to any formal or informal agreements between David Loudon (NHS) and Alastair Fernie (Multiplex). My recollection is that the water management activity of running the taps was managed by Ian Powrie and carried out by Brookfield reps. The stage 3a works was managed by Peter Moir and Hugh McDerment. The retail fit out was managed by Graham Forsyth. The install of imaging equipment was managed by Frances Wrath. Site/Hospital access for other external contractors was managed by Ian Powrie. The pre-equipping of the hospitals was managed by the Procurement Dept with assistance from the Project Managers. The IT install was managed by Eleanor McColl. Brookfield/Multiplex were available to provide assistance

as and when required by the NHS Managers named above.

d) If so, what was their role and responsibility?

A. Please refer to my response to Q40c above.

e) How was this managed?

A. Ian Powrie may able to advise what if anything Brookfield/Multiplex were undertaking and how this was managed.

f) Who from NHS GGC agreed to this arrangement with Multiplex?

A. Please refer to my response to Q40c above

g) Who from NHS GCC was responsible for overseeing?

A. Please refer to response to Q40c above

h) What, if any, issues arose from this?

A. I don't recall any issues being raised - Please refer to my response to Q40c above

41. At handover who was responsible for ensuring that paperwork was produced to confirm contractual compliance?

A. This was my assumption: For Brookfield/Multiplex = John Wales, Darren Smith and David Wilson were responsible. John Wales was their Quality Manager. For NHS = Ian Powrie, Peter Moir with assistance from John Redmond (Capita), Douglas Ross, David Hall (both Currie & Brown) and the appointed CDM Co-ordinator.

a) Paperwork

A. Please refer to response for q 41 above

b) O&M Manuals

A. Please refer to response for q41 above

c) M&E Clarifications Log

A. I do not understand this question. My understanding is that the M&E Log was a list of agreements between NHS and Brookfield Multiplex at time of a contract award and b) instruction to proceed. It was not a handover document.

d) Others paperwork as per the contract

A. I think that Brookfield organised for the Occupation Certificate to be provided by Building Control. I do not know what other paperwork would be required.

42. Provide as much detail as possible – was anything missing? If so, how was this managed?

A. As I was not involved I am unable to confirm what if anything was missing.

43. What commissioning and validation documentation for the water system did you see at handover? What commissioning and validation documentation for the ventilation system did you see at handover?

A. I do not recall seeing any documentation however I did not expect to see it given I was administrative (non-technical) - this was not part of my role.

a) What documentation would you expect to be available for both the water and ventilation systems?

A. I was not involved in the commissioning of the buildings so I would not have been aware of what documents should perhaps have been provided.

b) Who was responsible for this documentation?

A. Please refer to my response for Q42 for Multiplex reps. For NHS I believe this would have been within the Estates remit.

c) What was your role?

A. I did not have a role in the commissioning or validation of the water or

ventilation systems.

d) Were you ever aware of commissioning and validation having been carried out?

A. I recall commissioning activities being discussed in various groups/meetings at which I was present in the role of note taker however I cannot recall any specific details. I also recall that Brookfield/Multiplex provided dates of when commissioning activities were being undertaken so that the activity could be witnessed but I cannot recall specific details. I also recall that the Project Supervisor reports includes information relating to activities that they witnessed. Brookfield provided a presentation to the Board about commissioning before handover but can't recall a date or who would have attended this presentation. Brookfield provided regular commissioning programmes to NHS reps. Brookfield provided a monthly report which I think included a section on commissioning.

e) If not, why were you not aware of commissioning and validation having been carried out?

A. I was administrative (non technical) therefore did not have any knowledge about what commissioning/validation entailed. I would have assumed that documentation relating to commissioning/validation would have been provided to the NHS on Zutec which would have been within the Estates remit.

44. Was any other paperwork missing at handover? If so, would you consider this missing paperwork to be of importance?

A. I am unable to answer this question as I do not know what information should have been provided and what was provided.

45. Operating systems at handover:

a) How many staff were allocated to maintaining operating systems and how was this determined?

A. I am unable to answer this question as I was not part of the Estates Dept and have a limited knowledge of Estates organisational structure. Ian Powrie may be able to advise as I can recall him creating job descriptions for a variety of Estates department posts. I recall this as Ian asked me to format the documents in preparation of the job descriptions being salary graded.

b) What training was put in place for maintaining the operating systems?

A. I believe that either Brookfield Multiplex or Mercury Engineering or a mixture of both provided training to NHS Estates Dept reps – I did not attend any training so do not know what this consisted of. Ian Powrie may be able to provide further information as my recollection is that he directly liaised with Brookfield Multiplex about which Estates reps were to attend each training session and that Ian attended a number of sessions.

c) Who carried out the training? Refer to **Estates Communication Bundle document 5** – 'Brookfield Multiplex Client Training & Familiarisation Register for Ventilation'.

A. I believe that this would either be Brookfield Multiplex, Mercury Engineering or a mixture of both who provided this training.

d) Were Multiplex involved in the training?

A. I am unable to comment as I did not attend any training sessions. Please refer to response provided at q 44b.

e) Was sufficient training provided to allow staff to operate the systems?

A. I am unable to comment as I did not attend any training sessions and I do not know what operating the systems would entail - my role as project administrator was non technical. Please refer to response provided at q 44b. Ian Powrie may be able to provide further information.

f) Please describe the manuals/ documents that were handed over.

A. I do not remember any documents being provided directly to myself or others within the Project Team.

46. What was your involvement/ role in the handover process? How did you manage this?

A. I do not recall having a role in the handover process.

47. Who signed the completion certificates?

A. The 2015 Stage 3 Sectional Completion Certificate was signed by Peter Moir for the NHS and John Redmond for Capita as shown in the bundle.

48. Who was the person with the responsibility to sign the completion certificates under the contract?

A. I thought that Peter Moir, who was the named NEC3 Project Manager in the contract, would have been responsible for the NHS.

49. **Estates Communication Bundle, document 3** – 'Stage 3 Adult and Children's Hospital Completion Certificate':

a) What is this?

A. I believe this is a certificate created for the contract with Brookfield Multiplex due to the contract having different stages and as they were working on different buildings.

b) Have you seen it before?

A. Yes

c) Have you seen other such certificates?

A. A similar certificate was provided for some other contract stages and buildings i.e. Stage 1 – Labs and Facilities Management Building.

d) Who signed off these certificates?

A. As Peter Moir was the NEC3 Project Manager for the contract with Brookfield Multiplex I believe that Peter signed the completion certificates prior to his retirement and then Graham Forsyth signed off a certificate after Peter left. I cannot recall which certificate this was.

e) What checks were carried out prior to sign off?

A. In the weeks prior to sign off Project Team Managers did walk-rounds of the hospitals and highlighted any issues to the Project Supervisors for them to raise with Brookfield/Multiplex. I am unable to confirm what they were checking.

f) What was your role/ responsibility?

A. I cannot recall having a role in this.

g) Looking at the defects referred to in the completion certificate documents 3 above: Look also at **Estates Communication Bundle, document 4** – 'Capita NEC3 Supervisor's Report (No 46)':

(i) What are these defects?

A. I do not understand this question. The lists consist of items which require to be rectified by Brookfield/MPX.

(ii) What was the impact of these defects?

A. I am unable to comment as cannot recall any impacts.

(iii) Why two years to deal with the defects?

A. I am unable to comment as I do not know. The Project Legal Advisors, Shepherd & Wedderburn may be able to confirm.

(iv) Who decided that it was appropriate to accept handover with outstanding defects?

A. I am unable to comment as I do not know

(v) Is this usual practice in the construction industry?

A. I am unable to comment as I do not know

50. Refer to **Estates Communication Bundle, document 8** – 'Programme for handover to start of migration':

a) Do you know what this is?

A. The was a programme prepared by the NSGH & NCH Pre-Equipping & Migration Interface Manager.

b) Have you seen it before?

A. Yes

c) What are the numerous defects?

A. These relate to items which Capita raised to Brookfield/Multiplex as defects which I believe were included with the Completion Certificate issued in January 2015.

d) What is your understanding of the purpose of this document?

A. I do not know what the purpose of this document was. David Loudon or Annette Turnpenny may be able to confirm.

e) What comments, if any do you have regarding the number of defects?

A. I am unable to comment as I do not know, given the size of the building, if this number is high/low or what impact each defect would have.

f) To what extent were you aware of this document at handover?

A. I was aware of this document following handover but I cannot recall why I was aware however it would have been an administrative task such as printing, scanning or saving or providing information for input (i.e. PMI or CE info).

g) If not, should you have been aware of this document at handover?

A. Only if there was an administrative task to be undertaken.

51. What did the contract say about retention of certain parts at handover? Was this enforced and why?

A. I am unable to comment as I do not understand the question. Douglas Ross (Currie & Brown) or Shepherd & Wedderburn may be able to provide further information.

52. To what extent did Multiplex retain responsibility for the build following handover? Did Multiplex give any warranties? What were the terms of any warranty relating to Multiplex's work? How long was the warranty period following handover in January 2015?

A. I believe the contract had a 2 year defect period. I am not clear if the defect period is what is meant by this question.

53. How many companies have on-going responsibility following handover? If so, describe the responsibilities of the companies. How long post-handover were the other companies involved for?

A. I am unable to provide comment as I do not know. I think this falls within the remit of the Estates Department who may be able to confirm.

54. What concerns, if any, did you have about the opening of the hospital after handover? Refer to **Estates Communication Bundle, documents 19 and 21 and 21.1** when answering.

A. I am unable to comment as I was not involved in the commissioning or operalisation of the hospitals. Being non technical and non clinical I do not have the knowledge to know if an item would stop the hospitals opening.

a) Was there anything missing that you thought should have been constructed/installed? If so, please describe what was missing.

A. I do not recall if anything was missing. Being in an administration role I am not sure I would have unless it was captured in a meeting note as an action for others.

b) Describe what the EW Tracker in **Estates Communication Bundle, document 21** was, what was the purpose of this document and associated meetings? Please explain knowledge at the time of any concerns being flagged.

A. The Project used a web-based third-party system called “Sypro” to capture items which may impact on the contract price or programme. The NHS could issue an Early Warning, Project Manager Instruction or Compensation Event to Multiplex and Multiplex could issue an Early Warning or Compensation Event to the NHS. The document was created as an aide memoir to allow the Early Warning Group members to discuss each item issued on Sypro until the item was agreed/rejected. When an item was agreed/rejected it was removed from the EW Tracker. As Project Administrator this document allowed me to assist Peter Moir to keep the Sypro system timeously updated. My view of the EW Tracker document was that it was a tool to focus weekly discussions in order to close out items and update the Sypro system accordingly. It was not a formal note of meetings. I am unable to comment if there were any concerns being flagged as I do not recall anything of specific importance - I tried to capture discussions whether they were of value or not.

c) What other concerns did you have about areas of the hospital at handover?

A. I am unable to comment as I was not involved in the handover of the hospitals.

55. Refer to **Estates Communication Bundle, document 22** at the point of patient migration Mhairi Lloyd states that there were rooms/ areas 'not yet fit for purpose': Look also to **Estates Communication Bundle, document 19**:

a) Tell me about your understanding of the concerns – namely what the concerns were any why?

A. I am unable to comment on the content of the email communication as I am non clinical and non-technical. From noting the date I think this was around the time of Ebola and the clinical service was identifying suitable routes into the hospital and a suitable location for any Ebola patients. My knowledge about Ebola at the time was learned through newspaper coverage at the time.

b) Your involvement with the dealing with any concerns?

A. I recall providing floor plans of the hospital, but I am unsure who these were provided to or who requested them.

c) If so, how matters were resolved prior to patient migration?

A. I do not know as my involvement stopped after providing the floor plans.

d) Who signed off prior to patient migration?

A. I am unable to comment as I do not know.

56. Tell me about the snagging process, refer to **Estates Communication Bundle, documents 90 and 91** when considering your answer detail:

a) What happened?

b) How long were Multiplex on-site following handover?

c) How long did the snagging process last?

d) Main areas for snagging?

e) Records of works carried out.

f) Sign off – who as responsible and when signed off?

A. I am unable to provide comment on documents 90 and 91 as I have never seen these documents before. As far as I recall excel sheets were prepared which captured items reported on the FM First System as a snag. Brookfield/Multiplex would allocate the snag to their sub-contractor who were associated with carrying out the initial works. The snag would be investigated, and the action taken recorded on the sheets by Brookfeld/Multiplex. These sheets were regularly (I think it was weekly) issued back to the NHS (I think Ian Powrie) for review. Any new snags would be added to the sheet and returned to Brookfield/Multiplex. The excel documents I recall seeing are different to the documents 90 & 91.

57. Refer to **Estates Communication Bundle, document 132** with the benefit of hindsight do you agree with Frances Wrath's comments that all area were commissioned in line with Employer's Requirements? Please explain your answer and reasoning.

A. I am unable to comment as my role was administrative (non-technical) and I was not involved in the commissioning process or have the technical knowledge of what was included in the Employer's Requirements.

Wards and Hospital Occupation from January 2015

58. At the point of taking occupation of QEUH/RHC on 26th January 2015 please confirm whether the following wards were fully handed over from Multiplex to NHS GGC:
Ward 2A/2B
Ward 4B
Ward 4C
Ward 6A
Ward 6C

A. I cannot recall as I was not involved in the handover or commissioning activities.

59. Please also confirm your understanding of the ward specification and patient cohort to be located in each ward.

A. I do not have an understanding as my role was administrative (non-clinical & non-technical).

60. If a ward or wards were not handed over on 26th January 2015, or were partially handed over, please confirm:

a) Why they were held back?

A. I do not recall wards being held back.

b) Any financial consequence to both Multiplex and NHS GGC of the ward(s) being held back?

A. I cannot comment as not aware of any wards being held back or financial discussions.

c) What works were carried out in order to allow this ward(s) to be handed over the NHS GGC?

A. I cannot comment as not aware of wards being held back.

61. Were any other wards, aside from those referred to above, retained? Answer as above.

A. I do not recall wards being held back.

62. We know that the energy centre was retained by Multiplex.

a) Why was the energy centre retained?

A. I am unable to comment as I do not know.

b) What financial consequences, if any, arose for either Multiplex or NHS GGC if the energy centre was retained?

A. I am unable to comment as I do not know.

63. What works were carried out to allow hand over of the energy centre to NHS GGC?

A. I am unable to comment as I do not know. I have a vague recollection about labelling.

64. Were any other parts of the hospital retained by Multiplex pending works being carried out? Why? What works required to be carried out prior to them being handed over?

A. I am unable to comment as I do not know.

65. At the point of handover on 26th January 2015 how satisfied were you that all areas 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 am unable to comment as this is outwith my knowledge and skill set due to being administrative (non-technical and non-clinical).

66. If not, why were the wards handed over? Were any issues escalated to more senior management/ Board level? Please confirm.

A. N/A

Asset Tagging

67. Describe and detail asset tagging:

a) What is this?

A. I am unable to fully answer this question as I do not know what asset tagging actually consists of other than the labelling of equipment as IT have for laptops, printers, display screens, etc.

b) Why is this important?

A. From an administrative role – so there is a record of who has items of equipment.

c) Who was responsible?

A. My assumption is that Brookfield/Multiplex for items supplied through the contract and NHS for NHS instructed items.

d) What was the impact if this was not done?

A. I am unable to provide a comment as I think it would depend on what the item being tagged is. I assume that for equipment items that it would deter theft and help record maintenance activities. For Brookfield/Multiplex items it would allow recording of what was provided through the contract and any commissioning or maintenance activities for that item.

e) What concerns, if any, did you have about this?

A. I had no concerns as was not aware of what would be asset tagged. I have a vague recollection that asset tagging was discussed in terms of additional labelling.

f) What concerns, if any, were escalated? If not, why not?

A. I do not recall.

g) Tell me about any issues regarding asset tagging and how you managed this?

A. I have a vague recollection that asset tagging was discussed at a meeting in 2016 or 2017 which I was present at for the purposes of note taking. Brookfield Multiplex and the Project Supervisor representatives would have been at this meeting. If it had been a defect, then I would have assumed that the Capita rep would formally record the defect and notify Brookfield. Any issues should have been recorded within meeting notes.

68. Was there a contractual requirement to provide CAMF?

A. I am not sure however think there is a section about CAMF in the Employers Requirements. My recollection is that Estates reps were provided with a demonstration of the Zutec system around 2011 as the QEUH Estates department were still to decide upon and implement a CAFM system. The implementation of the Zutec system was agreed to by Alex McIntyre and Ian Powrie. Other Estates staff may have been present at the meeting, but I cannot recall. I think there was an agreement that Zutec would assist the NHS populate their CAFM system when the NHS were ready.

a) Again, what is the purpose of this and who was responsible for providing this?

A. I am unable to give comment as I don't know what the purpose of a CAFM system is. My assumption is that it is for the recording of maintenance activities.

b) What is the purpose of CAFM?

A. As above - my assumption is that it is for the recording of maintenance activities.

c) How does ZUTEC differ from CAMF?

A. I am unable to give comment as I don't know what a CAMF system is.

d) Should both CAMF and ZUTEC have been provided at handover?

A. My recollection is that it was agreed that Brookfield/Multiplex would provide the building information on Zutec. The Estates dept would then organise for this information to be uploaded to the preferred CAFM system of their choice. I vaguely recall that Brookfield/Multiplex offered their assistance or assistance of Zutec if required.

e) Who was responsible for ensuring provision of CAMF and ZUTEC?

A. Zutec – Brookfield Multiplex. CAFM - QEUH Estates Dept.

f) What were the consequences of these not being provided?

A. As I do not work within the Estates Dept and am non-technical I cannot comment – this question is outwith my knowledge base and skill set.

g) What action was taken to remedy matters? Were Multiplex contacted?

A. I am unable to comment about a remedy. I recall that Brookfield/Multiplex provided drawings to Ian Powrie via Aconex. There was a series of Aconex communications which provided drawings for each sub-contractor.

69. Provide information on any issues in relation to CAMF and ZUTEC

a) Operation

A. For CAFM - If this relates to FM First then I think initially there were issues with the handsets used by Estates Dept reps and also duplication of faults being recorded by clinical staff. As I am not an Estates staff member I am not sure how the FM First system works. For Zutec – my experience is that it can be clunky to use – moving between folders could be slow. Like all systems – you need to have an understanding of the filing structure to know how to navigate around each system. I recall suggestions that the Zutec system was not fully populated at handover.

b) User suitability

A. I do not recall any issues being raised

c) Any other matters

A. I think that the issue re drawings still to be populated on Zutec was discussed between Ian Powrie and David Loudon and that David requested that Ian liaised directly with Brookfield to resolve any concerns he had.

d) Who was this reported to, what action was taken to remedy matters?

A. I think that the issue re drawings still to be populated on Zutec was discussed between Ian Powrie and David Loudon and that David requested that Ian liaised directly with Brookfield to resolve any concerns he had.

70. Did your team or NHS IT develop a system for asset registration?
If so, when and how long did it take following handover.

A. I do not recall any system being developed for asset registration but as I am not an Estates rep then I would not be aware if this is the case.

HEPA filters

71. At the point of handover in January 2015, what concerns, if any, were you aware of in relation to HEPA filters? Refer to **Estates Communication Bundle, document 22**.

A. None. Please refer to my response to Q 54. Document 22 would appear to be 6 months after handover. I was not involved in patient migration or commissioning.

72. If so, what issues were you aware of?

A. N/A

73. Dr Gibson in her statement refers to HEPA filters not being in place at the point of handover in wards 2A/B.

a) What was the impact of HEPA filters not being installed?

A. I am unable to comment as this item is outwith my knowledge base and skill set. I am administrative and non-clinical.

b) What was the potential patient impact of the absence of HEPA filters?

A. I am unable to comment as this item is outwith my knowledge base and skill set. I am administrative and non-clinical.

c) What was done to resolve any HEPA filter issues?

A. I have a vague recollection that either Brookfield/Multiplex or Mercury Engineering ordered at least 1 HEPA filter from a company in Ireland for urgent delivery.

d) Who was responsible for providing HEPA filters and ensuring that they were installed during the build?

A. I am unable to confirm however I believe that Mercury Engineering would have been responsible.

e) Who signed off handover without HEPA filters being installed?

A. I do not understand this question. The handover of the hospitals was signed off by Peter Moir as per Sectional Completion Certificate. I do not know who signed off Schiehallion Ward in advance of patient migration which is around the time of Dr Gibson’s email communications.

f) Were infection control doctors and nurses consulted? If so, who?

A. I do not know.

g) Why was handover signed off without HEPA filters?

A. I am unable to comment as I do not know.

74. How many HEPA filters were missing, if any, from any other wards following handover?

A. I am unable to comment as I do not know.

a) Discuss how this was managed.

A. I am unable to comment as I do not know.

Chilled beams & Thermal Wheels

75. Can you recall any specific events in relation to chilled beams.
For each event, please tell us:

a) Describe your understanding of what the concerns were at the time?

A. I cannot remember anything specific. I think Ian Powrie asked me to locate documents about dew point. As I am non-technical any information I provided to Ian would have been located on basis of a word search. I do not know what dew point is.

b) Who was involved and what was their involvement?

A. As above.

c) Your understanding of what action was taken and why?

A. I do not have any understanding.

d) Was any work carried out and if so by whom?

A. I do not know.

e) Your understanding of whether the issues were resolved and when?

A. I do not know.

f) Describe any further information you were/ are now aware of regarding these issues which may assist the Inquiry?

76. To what extent can you recall any specific events in relation to thermal wheels?

A. I cannot recall any specific events in relation to thermal wheels and as non-technical do not know what it is.

77. For each event please tell us:

a) Describe your understanding of what the concerns were at the time?

b) Who was involved and what was their involvement?

c) Your understanding of what action was taken and why?

d) Was any work carried out and if so by whom?

e) Your understanding of whether the issues were resolved and when?

f) Describe any further information you were/ are now aware of regarding these issues which may assist the Inquiry?

A. I cannot recall any events related to thermal wheels.

Commissioning and Validation (C&V)

78. What is your understanding of the commissioning process for the water and ventilation system?

A. I was not involved in commissioning process - this item is outwith my knowledge base and skill set. I recall that Capita were invited to witness some commissioning activities. I understand that Brookfield commissioning and test results were uploaded to the Zutec system but whether this has all records I do not know. The Capita Reports include a table of witnessing activities.

79. What validation, if any, was carried out in respect of the water and ventilation system prior to handover?

A. I am unable to confirm – Brookfield/Multiplex invited Capita as the Project Supervisors to witness a variety of tests and my recollection is that their monthly report includes a list of tests which they witnessed. I do not know if there invite was for the purpose of commissioning or validation.

80. What commissioning and validation documentation did you see before handover in 2015 – if not, who would have had sight of this?

A. I personally don't recall seeing any - I have a vague recollection that C&V records were to be uploaded to Zutec by Brookfield/Multiplex. NHS Estates Dept reps had access to Zutec. Ian Powrie may be able to provide further information.

81. Where is this commissioning and validation documentation ("C&V") stored generally on the hospital system?

A. Information provided by Brookfield/Multiplex is stored on the Zutec system. I have never worked for the Estates dept so do not have an understanding of how or where Estates dept reps stored records.

82. What is the purpose of C&V?

A. I am unable to provide comment as this item is outwith my knowledge and skill base.

83. What are the consequences of it not being carried out?

A. I am unable to provide a comment as this item is outwith my knowledge and skill base.

84. How many records were kept of the cleaning and testing regime? Where were the records kept and what was the retention policy? What concerns, if any, did you have about record keeping and retention?

A. I am unable to provide a comment as this item is outwith my knowledge and skill base. Please refer to the comment provided above.

85. What would your reaction have been if you had found out the water or ventilation system had no C&V before handover in 2015? Why were you concerned?

A. I am unable to provide comment as this item is outwith my knowledge and skill base – I do not know what is common practice. I recall witnessing taking place by Capita as noted in their reports. I recall C&V being discussed at various meetings which the notes should capture. I do not recall any issues being raised about commissioning or validation.

86. Please respond to the above question in respect of verification and the cold-water supply system respectively.

A. I am unable to comment as this item is outwith my knowledge and skill base – I do not know what is common practice. I recall witnessing taking place by Capita as noted in their reports. I recall C&V being discussed at various meetings which the notes should capture. I do not recall any issues being raised about commissioning or validation.

87. What C&V of the water and ventilation system was carried out post-handover?

A. I am unable to comment as I was not involved in commissioning & validation activities. My understanding is that Zutec should hold the C&V records from Brookfield/Multiplex.

a) Who was responsible?

A. Pre-handover - Brookfield Multiplex and Post-handover - NHS Estates.

b) How was the C&V recorded?

A. I unable to provide comment as not involved in any C&V activities. Records should be on Zutec if carried out by Brookfield/Multiplex

c) What concerns if any did you have arising from post-handover C&V? If so, why did these concerns arise?

A. None – this is outwith my knowledge and skill base as I am non-technical.

DMA Canyon Reports

Refer to Bundle 6 – Miscellaneous documents – documents 29 and 30.
Refer first to document 29

88. Who authorised this report?

A. I do not know who would have authorised this report.

89. Who ordered this?

A. My understanding was that Ian Powrie ordered this report. Ian Powrie may be able to provide further information.

90. What was the purpose of this report?

A. I do not have an understanding of the report purpose as I am non-technical. My assumption was that it would be used to inform a water management plan.

91. Who was responsible for obtaining the report?

A. I am unable to confirm as I do not know however my recollection is that both parties were to obtain a report but there was agreement between NHS and Brookfield Multiplex that the NHS would organise a report and feedback any issues to Brookfield/Multiplex.

92. Was there an earlier report prior to handover?

A. Not that I was aware of.

93. How was the report paid for?

A. I am unable to confirm as I do not know – I do not recall any invoice being processed for payment by myself for this work/this company. As I have never worked for the Estates Department, I do not know the processes they had in place to raise a purchase order or authorise payment.

94. Who signed off on payment?

A. I am unable to confirm as I do not know. As I have never worked for the Estates Department, I do not know the processes they had in place to authorise payment.

95. How was this signed off or payment processed?

A. I am unable to confirm as I do not know. As I have never worked for the Estates Department, I do not know the processes they had in place to authorise payment.

96. Who was the report sent to?

A. I am unable to confirm as I do not recall seeing it until I was made aware of its presence in 2018.

97. When did you first become aware of the DMA Cayon 2015 report?

A. In 2018.

98. Where would the report have been stored?

A. I am unable to confirm as I did not learn about this report until early 2018.

99. Who had the report?

A. I am unable to confirm as I do not know – in early 2018 the report was located by Ian Powrie.

100. When were DMA Canyon present at QEUH/RHC site between 2015 and 2018?

A. I am unable to confirm – I had never heard of DMA Canyon until becoming aware of the report early 2018.

101. What, if anything, did DMA Canyon say about the report during their time on site between 2015 and 2018? If so, when and what was mentioned?

A. I only became aware of this report in 2018 – I was not aware that DMA had been on site.

102. DMA Canyon prepared another report in 2017 **(Bundle 6 – Miscellaneous documents, document 30).** What works, if any, recommended in the 2015 were carried out prior to the 2017 report?

A. I am unable to confirm as I only became aware of both reports in early 2018 and would have accepted the findings in the 2017 report.

103. What happened following the 2017 report? What concerns, if any, were raised? What issues, if any, were flagged? If so, please provide details of the concerns and who was involved, and any action taken.

A. I am unable to confirm as I first became aware of the reports early 2018. I recall that a focus was put on the DMA reports by Senior Estates reps, an action list was subsequently created, and a review was carried out by an Independent Contractor. From July 2018 to January 2019 my memory is not good as I had periods of sickness absence as the result of a non-work related accident.

Schiehallion Unit

104. Refer to **Estates Communications Bundle document 42**

a) Describe your understanding of what the concerns were at the time?

A. I did not have an understanding – I was carrying out an administrative task to obtain information in relation to the ventilation system – I do not think that I was aware of what activities RSK carried out.

b) Who was involved and what was their involvement?

A. Julie Miller (Brookfield) who provided information and Peter Moir or David Loudon (both NHS) who I would likely be carrying out the task for.

c) Your understanding of what action was taken and why?

A. I do not recall specific actions.

d) Was any work carried out and if so by whom?

A. I do not recall any works being carried out as a result of the RSK reports being provided by Brookfield.

e) Your understanding of whether the issues were resolved and when?

A. I do not recall works being carried out or if perceived concerns were resolved.

f) Describe any further information you were/ are now aware of regarding these issues which may assist the Inquiry?

A. I have nothing further to add.

<u>Isolation rooms – Schiehallion Unit</u>

105. What concerns, if any, did you have about the isolation rooms in the Schiehallion Unit? Refer to Estates Communications Bundle document 93, 94, 95, 96, 97:

A. Within the documents referred to, you emailed a letter from David Loudon to Alistair Fernie at Multiplex on 1st March 2016:

a) Describe your understanding of what the concerns were at the time?

A. I did not have an understanding of the perceived concerns at the time as I was carrying out an administration task. I am non-technical.

b) Who was involved and what was their involvement?

A. NHS, C&B and Multiplex reps – discussing ventilation options.

c) Your understanding of what action was taken and why?

A. I did not have an understanding.

d) Your understanding of the issues with the audit trail referred to by David Loudon page 816?

A. I was carrying out an administrative task – I think a previous exercise had been undertaken to locate any documents which referred to an agreement to 3 air changes for the hospital. I am non-technical and do not recognise the terminology of air change rate – my recollection was that 40litres per person per second was the agreement recorded in the M&E Log for a general ward however that ward 2a was not a general ward.

e) Was any work carried out and if so by whom?

A. I cannot recall any works being carried out.

f) Your understanding of whether the issues were resolved and when?

A. I have a vague recollection that following closure of ward 2a, as a result of the investigations into potential water contamination, that a decision was made to carry out works to upgrade the ventilation system – I cannot confirm what the upgrade works were to consist of.

g) Describe any further information you were/ are now aware of regarding these issues which may assist the Inquiry?

A. I have nothing further to add.

SBAR and Ventilation Issues

106. Refer to the Estates Communications Bundle document 104, 105:

a) Describe your understanding of the issues?

A. I did not have an understanding of the perceived issues, my involvement was administrative and non-technical. I think I was asked to locate anything in relation to air change rates and was helping Heather Griffin in this task.

b) Who was involved?

A. From the email exchange I can see that it was David Loudon (he was the Project Director from mid-2013) seeking some background information from Currie & Brown reps (they were the Technical Advisor Team Leads), Heather Griffin (Heather was the Project Manager for the Adult Hospital), Peter Moir (Contract named NEC3 Project Manager) and Alan Seabourne (Project Director from 2006 to mid-July 2013). I vaguely recall being present at this meeting i.e. venue and who was present however I do not recall any outcomes from the meeting.

c) What action was taken and why?

A. I do not recall any actions or there being a note/minute of the meeting taken.

Ward 4B

107. Refer to the **Estates Communications Bundle document 87**:

a) Tell me your understanding of the issues?

A. I did not have an understanding of the perceived issues, my involvement was administrative and non-technical. I think that there was an expectation that the air change rate would be higher than it was in 4B. I recall that the BMT service was a late addition to the planned hospital. The ventilation was to be the best it could be within the current planned/installed vent set-up and would not be like for like with the Beatson.

b) Your understanding of the issues with taps?

A. I do not understand what the perceived issue with the taps is/was. However my recollection from taking notes at various meetings was that the Horne tap had a flow straightener, there had been a change to guidance about use of flow straighteners around the time of tap installation but as the horne taps were already being installed throughout the hospitals that it was agreed that a plan should be put in place to ensure flow straighteners were maintained. Taps does not appear to be referenced in document 87.

c) Your understanding of the issues with the energy centre?

A. Energy centre does not appear to be referenced in document 87.

d) Your understanding of the issues with ventilation?

A. I do not have an understanding or perceived ventilation issues.

e) Who was involved?

A. If this question relates to 4B then my recollection is Peter Moir, Infection Control reps and Brookfield reps having discussions about current air change rates and what was at the time possible.

f) What action was taken and why?

A. To enable BMT patients to be located in ward 4B.

108. Refer to the **Estates Communications Bundle document 97**:

a) What were the issues, as far as you were aware at the time in respect of Ward 4B?

A. At the time there was a desire for the ventilation rates to be improved for ward 4b.

b) What was the intended purpose of PM 471?

A. PMI 471 was issued to Brookfield/Multiplex to get an understanding of the feasibility of upgrading the ventilation system for ward 4b, a programme and quotation for works required to meet a revised specification.

c) Who was involved?

A. I issued PMI 471 as an administrative task delegated by others – I cannot recall who instructed this. I believe that it may have been Graham Forsyth as he had taken over from Peter Moir following Peter retiring in Feb 2016. The revised specification attached to the PMI includes a list of names which included reps from Infection Control and the BMT service. Brookfield reps Alistair Fernie, David Wilson and Gillon Armstrong appear on the email communications. Steve Russell is also mentioned within the email chain – I believe he was going to be overseeing any agreed works.

d) What action was taken and why?

A. I do not recall the revised specification. I recall that there was talk of trying to seal the ceiling tiles into the ceiling grid but do not recall if this took place.

109. Refer to the **Estates Communications Bundle document 98**:

a) Tell me your understanding of the issues?

A. I did not have an understanding of the perceived issues, my involvement was administrative and non-technical.

b) Your understanding of the issues with taps?

A. My recollection from taking notes at various meetings was that the Horne tap had a flow straightener, there had been a change to guidance about use of flow straighteners around the time of tap installation however as the horne taps were already being installed that a plan should be put in place to ensure flow straighteners were maintained. Taps does not appear to be referenced in document 98.

c) Your understanding of the issues with the energy centre?

A. I cannot recall any issues with the energy centre. The correspondence states low temperature but as non-technical I do not have an understanding of the significance low temperature has. Energy Centre does not appear to be referenced in document 98.

d) Your understanding of the issues with ventilation?

A. I did not have an understanding of perceived issues with ventilation – I was carrying out administrative tasks, arranging meetings and passing information between parties in relation to the spec for ward 4B.

e) Who was involved?

A. David Loudon as Project Director, other NHS reps for BMT service and Capital Planning and Brookfield reps.

f) What action was taken and why?

A. I do not recall what actions were taken.
Please refer to my comment in response to Q104.

110. Refer to the **Estates Communications Bundle document 123**:

a) Tell me your understanding of the issues?

A. The correspondence states the water temperatures have been fluctuating.

b) Your understanding of the issues with taps?

A. As above, my recollection from taking notes at various meetings was that the Horne tap had a flow straightener, there had been a change to guidance about use of flow straighteners around the time of tap installation however as the horne taps were already being installed that a plan should be put in place to ensure flow straighteners were maintained.

c) Your understanding of the issues with the energy centre?

A. From this communication that water temperature derived from the energy centre were fluctuating.

d) Your understanding of the issues with ventilation?

A. I have no comment as I am administration (non-technical). It would appear to be in relation to air change.

e) Who was involved?

A. Douglas Ross for Currie & Brown, TUV SUD Wallace Whittle (who were the M&E engineers on the Currie & Brown Technical Team), Mary Anne Kane (who had taken over from David Loudon following David moving to a new post outwith the NHS at the University of Durham) and Alan Gallacher (I cannot recall his job title).

f) What action was taken and why?

A. I cannot recall having any involvement in these discussions. Douglas provided Commercial advice to the Project from circa 2008. It would appear that a meeting is being scheduled. .

Water Risk Assessments and Written Scheme

Refer to the **Estates Communication Bundle document page 918- 927**:

111. What information were you to provide?

A. I cannot recall exactly – I think this was the water commissioning records from Zutec – specifically the commissioning records.

112. Why were you to provide this information and to whom?

A. I had knowledge of the Zutec system and had been identified to provide admin assistance to the Investigation into potential water contamination being undertaken jointly by HPS and HFS.

113. Was all the information required available?

A. I cannot comment as cannot remember what I copied to the memory sticks - the information I was able to provide was readily available. I don't recall being told that information was missing however HFS requested some additional information and that some retest certificates were requested from Multiplex. See Q112

114. Where was the information stored?

A. The Zutec system.

115. Do you recall any information not being available?

A. No, but I was carrying out an administrative task to provide the Zutec information to HFS. On review by HFS they identified that a few retest certificates were not in the information they had been provided with. A request was made to Brookfield by Heather Griffin/myself for the missing certificates. As far as I can recall most certificates were subsequently provided.

116. Do you have any further information that you wish to provide to the Inquiry regard this matter?

A. I have nothing further to add.

Review of Issues Relating to Hospital Water Systems' Risk Assessment 26th September 2018

117. Refer to Estates Communication Bundle, document 134.

a) Understanding of why the review was ordered?

A. To investigate why the DMA Canyon Water Risk Assessments had not been actioned.

b) Why ordered it?

A. I believe that it was ordered by Mary Anne Kane

c) Who was involved?

A. At the time I understood it to be the Estates staff who were named within the DMA Reports however I cannot confirm as was not involved.

d) Knowledge of action taken in response to the review and why?

A. As far as I know - no disciplinary action was taken against any staff members however I would not be privy to this information.

Staffing and working environment

118. What were the staffing levels like in estates at the point of handover? Where did the staff come from – were they mainly transferred from old site?

A. I am unable to provide comment in relation to staffing levels as was not a member of the Estates team. My understanding was that Estates staff would transfer from their demitted sites following patient transfer. In the interim period Brookfield/Multiplex would be undertaking water management activities.

119. Concerns if any about staffing following handover – to what extent did the staffing levels manage the workload? Refer to Bundle 8, document 40.

A. I am unable to comment as I was not a member of the Estates Team.

120. What training was in place for new and existing staff on using new systems and working within the QEUH? How suitable was the training? What documentation did you see relating to training? What training, to the best of your knowledge, was available to staff?

A. Brookfield/Multiplex provided training to Estates staff members based on a list of reps identified by Ian Powrie.

121. Who was responsible for providing staffing? Who was responsible for ensuring staffing was maintained at sufficient levels?

A. Estates staff members were identified prior to handover of the building to

attend various Brookfield/Multiplex training sessions. Post handover – as I was not an Estates team member, I do not know what training was available to anyone who had not attended a Brookfield/Multiplex scheduled training session. I know when requested I would give demonstrations of the Aconex and Zutec systems to staff members when requested to do so.

122. What concerns, if any, did you have regarding staffing levels?

A. As I was not a member of the Estates teams, I am unable to comment as outwith my knowledge.

123. What was the working environment like when QEUH opened – work life balance/ workplace culture? What issues, if any, did you have? If so, what concerns did you raise? Who did you raise these concerns with?

A. I am unable to comment as was not a member of the Estates Team and the Project Team staff involved in commissioning and migration transferred to other posts following the migration of patients and staff to their new locations. Personally, I have never worked within the QEUH or RHC. I remained with the small team who were managing the stage 3a Brookfield/Multiplex works and other QEUH campus projects.

124. How was information shared between the estates and project team and infection control staff and microbiologists? What issues, if any, were therewith information being shared between teams? If so, please describe the issues and members of staff involved?

A. I am unable to comment as I am not aware of how the embedded Project Team Estates and Infection reps reported to their Estates and Infection Control colleagues. The Project team had a SharePoint site for sharing information with nominated NHS reps from many departments across the NHS GG&C Board area. During periods that the Project Team did not have an embedded Infection Control rep then communication to Infection Control was generally carried out by Fiona McCluskey. Fiona McCluskey should be able to confirm if this is correct.

125. What information to be considered by infection control staff was not provided to them? Why was the relevant information not provided to them? When did this happen? Who was involved?

A. I am unable to comment as I do not know what information was/was not provided or should have been.

126. Generally – discuss the workplace environment and culture – What concerns, if any, did you have?

A. Personally, working in the Project Team was good. The environment was mostly open plan with a few offices along one side. Those who occupied actual office space operated an open-door policy. I thought that everyone had a common goal and played their part in the design and construction of the hospitals.

127. Is there anything further that you want to add that you feel could be of assistance to the Inquiry?

A. I have nothing further to add.

Declaration

128. 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

A43293438 – Bundle 6 – Miscellaneous Documents
A43955371 – Bundle 8 – Supplementary Documents
A47069198 – Bundle 12 – Estates Communications

SCOTTISH HOSPITALS INQUIRY

Witness Statement of

Andrew Wilson

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. Full name

A. Andrew Stephen Edward Wilson

2. Occupation

A. Engineering Manager

3. Qualification(s)

A. BEng (Hon) Mechanical Engineering, CEng - Chartered Engineer (IMechE)

Professional Background

4. Professional role(s) at NHS GGC Sector

A. Estates Manager

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

A. Estates

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

A. Unable to provide detailed Key Job Accountabilities due to the time that has passed since I worked at the NHS. I was overall responsible for delivery of estates service for the different hospitals I had responsibility for at different times.

7. Specific Role(s) at NHS GGC

A. I worked in the industry and the NHS for less than two years between January 2017 and December 2018, and have not worked in that industry since. During that timeframe, I did not work at the QEUH for all of that time. I have therefore had difficulty remembering details of what took place during that time.

8. When were you appointed to your role(s)? How did you come to be appointed, who selected you, what was the selection process, did you have previous working relationships with those who selected you?

A. I had no prior relationship with anyone involved in the selection process. From memory, the interview panel included Mary Anne Kane, Alan Gallagher and Stephen Wallace. The selection process involved a leadership / management personality trait test, preparing and providing a presentation on a key management activity I had experience of, as well as general interview questions. There was a second interview before I was offered the role.

Go through your role held in Estates at the QEUH:

9. Describe the role.

A. Please refer to my answer for question 6.

10. What were your duties in this role?

A. Please refer to my answer for question 6.

11. Who did you report to in this role? Detail superiors/superiors for this role.

A. I reported to various people at different times due to being moved twice to change the site(s) I was responsible for. I reported to Karen Connelly as General Manager of Facilities, Billy Hunter as General Manager of Facilities, David Pace as General Manager of Facilities, and Alan Gallagher as General Manager of Estates.

12. What was your relationship like with your supervisor in this role.

A. I had a good working relationship with each of the people named in question 10.

13. Provide details of staff who reported to you, and you were responsible for in this role, and your relationship with them.

A. At the QEUH, the people who reported directly to me were: Colin Purdon, David Brattey, Darryl Connor, Paul McAllister. I can't remember if there were any others.

14. Provide the name and role of any managers you worked with. Please provide their job(s) and role responsibilities.

A. Mary Anne Kane (Interim Director of Estates & Facilities), David Loudon (Former Director of Estates & Facilities), who left shortly after I started, Tom Steele (Director of Estates & Facilities) who joined shortly before I left. All were overall responsible for Estates & Facilities for GGC. From memory, Ian Powrie was the person I was supposed to take over from at QEUH (was Sector Estates Manager and may have moved into a role as Deputy General Manager of Estates).

15. How was work delegated in the Estates team?

A. There was a SW system in place (think it was called FM First) that was used by service users to log issues to be resolved by estates. The tasks to resolve these issues would be assessed by supervisors and assigned to maintenance staff to complete.

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

A. Work delegated by supervisors to maintenance staff would be recorded through the SW system. Work and tasks specifically delegated by me to others would sometimes have been verbal and sometimes via email. It would not have been recorded through the SW system.

17. How did you check that the work delegated had been carried out?

A. For work delegated by me, based on the method of delegation above, this would likely have been confirmed verbally or via email confirmation.

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

A. Nothing I can recall beyond general performance management.

19. Did you ever have any concerns/ever raise any concerns regarding management/ managers? If so, please describe these concerns. What action, if any, did you take in relation to these concerns?

A. Shortly after joining the NHS I was invited to attend a meeting between the NHS and the main contractor responsible for the build of the hospital. During this meeting I saw a large excel file relating to “snagging issues” from the NHS relating to the build of the hospital. It seemed like a relatively short time later that the contractor was largely off-site. As I ramped-up into my role (before being moved to the Clyde Sector), I did not see and was not handed over any snagging list to follow-up with the builder about. I am struggling to remember at this stage but I believe I asked about the snagging list and that I was told that the building had been handed over to operational estates and any specific issues would have to be raised with the builder.

20. Describe the interpersonal relationships within the Estates team. How would you describe communication between you and your supervisor(s)/ superior(s)? How would you describe communication to you from those whom were senior to you/ supervised you?

A. From what I can remember from that time, I would describe by relationships as good working relationships with those I reported directly to, and what I would describe as normal professional relationships with other superiors who I did not report directly to. From what I can remember from that time there was nothing out of the ordinary regarding communications from them.

21. On how many occasions, if any, did issues arise caused by misunderstandings or poor communication? Please provide details of any such instances.

A. I cannot remember any specific instances where issues arose due to misunderstandings from poor communication.

22. How did Estates management operate on a daily basis? Was responsibility shared between different teams? If so, to what extent was responsibility shared?

A. I believe responsibility at a site manager level was split between the new buildings and the “retained estate” which referred to buildings which existed prior to the building of the new hospitals. At an Estate Manager level, I am less clear now but believe this was split by both new vs “retained estate” as well as by topic based on the manager’s area of expertise (eg. plumbing / water, electrical systems). It may have changed during my time there.

23. Refer to the **Estates Team Bundle 12, document 29** - Organograms showing the organisational structures within QEUH.

a) Do the organograms match the organisational structures of QEUH?

A. Unable to confirm.

b) If not, why not?

A. The organogram pre-dates my employment at the NHS.

c) How did the structure and hierarchy operate across the different sectors?

A. The structure in facilities and estates was similar in each sector. Each sector had a General Manager of Facilities. The Sector Estates Managers reported directly to the General Manager of Facilities for each sector, with dual reporting to Alan Gallagher, General Manager of Estates. Each Site had at least one Site Estates Manager who report to a Sector Estates Manager.

Training

24. What training had you undertaken for your role(s) in estates?

A. I am unable to recall at this point any specific training I undertook.

25. What qualifications did you have for your role(s) in estates?

A. I have general engineering qualifications. I studied Mechanical Engineering at University.

26. What experience did you have working in estates prior to the QEUH/RHC? How similar was the industry, role, and responsibilities to your work in QEUH/RHC estates?

A. I did not have any prior experience working in Estates prior to joining the NHS.

27. Did you have any formal training or qualifications in respect of:

a) Water

A. No

b) Ventilation

A. No

c) Infection Control

A. No

28. If so, please detail above any training and qualifications – when trained? When qualified? Who was the awarding body? Please describe how the training and qualifications applied to your work at QEUH.

A. Not applicable.

29. Did you ever have any specific roles or duties in relation to the water systems operation or maintenance within NHS facilities? When did you have these roles and duties?

A. No direct responsibilities for operation or maintenance but I did, at times, have responsibility overall for estates on the site.

30. If you did:

a) What were these responsibilities?

A. Unable to recall my specific responsibilities in the role.

b) What was the purpose of these responsibilities?

A. Not applicable.

c) Were you aware of any specific legal responsibilities/ obligations relating to working with the water systems. If so, please detail.

B. I am unable to recall specifics.

31. If you did not have any such roles or responsibilities in relation to the water systems operation or maintenance within NHS facilities.

a) Who did?

A. Different people had responsibility at different times for this. Site managers also had overall responsibility for the water systems, but I cannot recall if any of them had direct, specific responsibilities. I believe it was possibly Estate Manager level where expertise was held for Water Systems. I cannot recall who held these roles, but I believe there were different people with responsibilities for managing this at different times.

b) What were these responsibilities?

A. I am unable to recall specifics.

c) What did you understand the responsibilities to be?

A. I am unable to recall specifics.

32. Were you aware of any legal obligations/ responsibilities? If so, please detail.

A. I am unable to recall specifics.

33. Have you ever worked on a large-scale water or ventilation system before? If so, when was this? How did this compare to working on QEUH? What was your role and duties?

A. I had not worked on a large-scale water or ventilation system prior to my employment at the NHS.

Combined Heating and Power Unit

34. Describe the Combined Heating and Power Unit (CHP)

A. My understanding of a Combined Heating and Power Unit is a unit which runs on gas and operates as a generator to create electricity. Additionally, the waste heat is used to provide heating.

a) What is the purpose of the CHP?

A. Nothing to add beyond question 31.

b) What condition was the CHP in when you commenced your role at QEUH?

A. I cannot recall the specific condition of the CHP when I commenced my role.

c) Were you advised of the condition of the CHP at handover?

A. I was not employed by the NHS at the point when NHS staff and patients started attending the site.

d) What information do you have to support your view on the CHP's condition?

A. Not applicable.

35. Are you aware if commissioning and validation of the CHP was carried out prior to handover?

A. I am unable to recall the details of this.

a) What, if any, commissioning and validation documentation did you see at the commencement of your role?

A. I do not recall seeing commissioning & validation documentation for the CHP at commencement of my role. The referencing provided to reference material is not clear but assuming I am reviewing the correct reference material (A34348232 Wallace Whittle Site Observations dated 24th February 2015 to 19th January 2016), I am unable to find reference to CHP. The material referenced for this question pre-dates my employment at the NHS.

(Refer to Estates team Bundle 12, document 90)

b) Who was/is responsible for ensuring that the commissioning and validation documentation was in place?

A. I am unable to confirm this.

c) Where were/are the records of the commissioning and validation for the CHP kept?

A. I am unable to confirm this.

36. Who was/is responsible for ensuring that the CHP was operating correctly?

A. I am unable to recall who was responsible for this. My last day of work with the NHS was in December 2018 so I am unable to confirm who is responsible for this now.

37. If the CHP was not operating correctly, could this impact patients? If so, how?

A. I cannot recall specifics, but I believe there was a bank of boilers which could provide heating and hot water if the CHP units were unable to provide this.

38. Are you aware of any historical issues with the CHP throughout your time within your roles in estates?

A. I cannot remember the specifics, but I believe there were issues with the CHP units during my time with the NHS. I believe someone from the builder was on site for a period of time to attempt to rectify the issues.

39. Did any further issues arise with the CHP during your time in estates? If so, please provide details.

A. Nothing I can add beyond my answer to question 35.

Ventilation

1. Describe the commissioning and validation process in respect of the ventilation system in the QEUH/RHC.

A. I am unable to provide any details of this.

a) Who was this carried out by?

A. I am unable to provide any details of this.

b) Who signed off?

A. I am unable to provide any details of this.

c) What commission and validation documentation did you see when you commenced your role(s) in estates?

A. I do not recall what or if I saw any commissioning and validation documentation when I commenced my role.

(i) If not, who would have seen commission and validation documentation?

A. I am unable to provide details on this.

(ii) Was there anything from the commission and validation documentation that you have seen which has given rise to any concerns? If so, what were these concerns?

A. Not applicable.

2. Refer to IMT Bundle 1 (June 2023 Hearings), Document 53 – IMT 22nd November 2024

a) What is your understanding of the ventilation specification of wards 2A and 2B?

A. I am unable to recall specifics of the ventilation specification.

b) What was your understanding of the issues with ventilation in wards 2A and 2B?

A. I am unable to recall any specifics regarding ventilation in these wards.

c) What was the ach/per hour?

A. Unable to provide this.

d) What should it have been?

A. Unable to provide this.

e) What work had been undertaken to rectify this?

A. I am unable to recall this.

f) What was your involvement, if any, with this?

A. I am unable to recall this.

g) Who was responsible for the ventilation specifications and their management?

A. I don’t know who was responsible for the specification of the ventilation. Management of the installed ventilation system would have been the responsibility of the estates team.

3. In her statement, Dr Teresa Inkster states that during an IMT in 2018 you advised her that you had been told by Tom Steele to tell clinicians, if they asked you, that rooms where positive pressure even when they were not. Do you recall this? What is your view on Dr Inkster's statement? Were you asked to lie about pressures? Please provide details.
   I do not recall this. I do not recall being asked to lie about pressures. I would not have lied about pressures, even if I was asked to.

4. For example: condensation/leaking/growth of bacteria/mould:
   Cleaning of Chilled Beams
   Air Sampling/water
   sampling Showers in 6A
   Action Plan
   Patient
   Placement
   Biocide Dosing
   SBAR prepared by Dr Christine Peters: Bundle 4 of June 2023 Hearings, document 37.

5. For each event, please tell us:

   a) What was the issue?
   b) The impact on the hospital (include wards/areas) and its patients (if applicable)
   c) Who was involved?
   d) What was the escalation process?
   e) Were anyexternal organisations approached to support and advise?
   f) If so, what was the advice?
   g) Was there opposing advice and by whom, and what was the advice?
   h) What remedial action was decided on and who made the decision?
   i) Was the issue resolved – consider any ongoing aftercare/support/monitoring.
   j) Any ongoing concerns the witness had himself or others advised him of?

k) Was there any documentation referenced during or created after the event. For example, an incident report?

l) Did anyone sign off to say the work had been completed and issue resolved/area safe.

6. At Page 166 of Bundle 4, Dr Peters lists reasons why chilled beams should not be used in neutropenic settings due to the infection risks associated with them, including the build-up of dust and them being a water source from condensation, leaks, and dripping water: Do you agree with this? If so, can you explain why? If not, can you explain why?

A. I am not clinical so cannot comment on the infections risks and cannot recall the specific issues around chilled beams, so I am unable to comment on this. The reference provided is from 2019, after my employment with the NHS ended.

7. Do you recall any issues with ward temperatures as a result of the chilled beams? Please provide details.

A. No.

Risk Assessments at Occupation:

8. Are you aware that there is a legal requirement to carry out a water risk assessment at the point of occupation?

A. I cannot recall the details of the legal requirements.

9. Where is this legal requirement set out?

A. I don't know.

10. Are you aware if such a risk assessment was carried out at the QEUH/RHC?

A. I cannot recall the details, but there was a risk assessment carried out at

the QEUH / RHC.

11. If so, when did you become aware of this risk assessment?

A. I cannot recall the details of when I became aware of this.

12. What documentation have you seen in relation to this risk assessment?

A. At some point during my employment, I am confident that I did see a water risk assessment.

13. DMA Canyon Reports: Refer to Bundle 6 – Miscellaneous documents – documents 29 and 30.

a) Have you seen these reports before?

A. It was too long ago so I cannot be certain about any details of the content, but I would have seen document reference 30. Risk assessment 29 was issued before my employment with the NHS began but I would have seen this document as well.

b) Was this the DMA Canyon 2015 report (document 29)?

A. As above.

c) When did you first become aware of this report?

A. I am unable to recall when I became aware of these reports. I don't believe I saw the 2015 report until after the 2017 / 2018 report had been issued to the NHS.

d) Who made you aware of this report?

A. I cannot recall who made me aware of the report.

e) Did you discuss this report with anyone?

A. I cannot remember the details, but I know this would have been discussed with a number of people including Site Managers, Estates Managers, as well as senior members of the estates & facilities teams I reported to.

f) Who would have signed off on these reports? What would this process look like?

A. I cannot recall who would have signed off these reports.

g) Are you aware of why the risk assessment was not undertaken prior to handover in 2015?

A. No, I am not aware. I was not employed by the NHS at that time.

h) Do you have a view on why this might have happened?

A. No.

i) The report makes several recommendations, do you know what was done to follow up on these recommendations between 2015 and 2017?

A. I was not employed by the NHS until 2017. I am not aware of what work was done relating to the 2015 report prior to the 2017 / 2018 report being issued to the NHS.

j) Do you know if/when the works suggested in the 2015 report were actioned?

A. No.

k) What is your own view of the findings of the 2015 report? Do you agree with it or not? Explain your rationale.

A. I am not able to say whether I agree with the findings or not.

l) The 2015 report highlights a number of actions required to be taken, how were these actions managed by estates? Please provide details of the management of the recommended actions.

A. I was not employed by the NHS at the time the 2015 report was carried out.

m) DMA Canyon prepared another report in 2017 (Bundle 6 document 30). Do you know what works, if any, recommended in the 2015 were carried out prior to the 2017 report?

A. No. I was not employed by the NHS at the time the 2015 report was issued. I was told later that actions had been taken but specific records could not be found. I cannot say what work was, or was not carried out.

n) What was the impact, if any, of the failure to implement the 2015 recommendations on patient safety?

A. I am unable to provide information on the impact, if any, on patient safety.

o) We understand that Infection Control were only advised about the 2015 DMA Canyon Report in 2018. Do you know why were they not told sooner? What happened?

A. I do not know why they were not told sooner since I was not employed by the NHS until 2017 and the report was issued in 2015.

p) Was the approach taken by Estates compliant with all relevant guidance and legislation at that time?

A. I am unable to comment prior to 2017 when my employment with the NHS began. During my time at the NHS, my impression was that all members of the estates team did everything they could to be compliant with relevant guidance.

q) Do you have any concerns about the way in which the water system was managed? My main concern was that there was a lack of specific records of actions taken for the 2015 report recommendations.

A. I cannot say what work was, or was not, carried out.

14. What risk assessments have been undertaken in respect of the water system since the DMA Canyon Reports? Please provide details.

A. I have not been on site at the NHS as an employee since before Christmas 2018. I am unaware of any further reports that have been carried out since the 2017 / 2018 report.

15. Following the DMA Canyon Reports, the Inquiry understands that you were responsible for the subsequent action plan what water ,maintenance strategies have since been put in place? Who is/was responsible for these? Please provide details of any applicable strategies which were put in place.

A. I cannot comment on anything that took place after I left the NHS in 2018. At the time, I recall working with the estates team to put the recommendations into an action plan which was tracked to monitor progress to closure of the issues raised.

Water Maintenance

16. What was your involvement in relation to the discovery and build-up of biofilm in the water system? What actions were taken to address this? Who was responsible for carrying out these actions?

A. I don't recall any details of this.

17. Were you involved in the swabbing/sampling of the biofilm/drains/water system? If so, who instructed you to do this, and what were the results?

A. I was not directly taking any samples.

18. Explain the cleaning and maintenance of the water system, taps, drains, shower heads etc. When doing so consider:

a) What was the cleaning regime?

A. I am unable to recall the details of cleaning and maintenance.

b) What was the importance of this?

A. As above.

c) What responsibilities did you have as a result of this?

A. As above.

d) What did you do to ensure these responsibilities were executed?

A. As above.

e) What issues, if any, did you have in fulfilling these responsibilities?

A. As above.

f) What, if any, matters regarding the maintenance of the water system were escalated? If so, who were they escalated to? What was the outcome of any such escalation? Issues around the water safety risk assessments were escalated. Issues around bugs / bacteria found in the drains in the children's hospital were escalated.

A. I cannot remember details of other issues that were escalated but expect there were others.

g) What is dosing?

A. I was not involved in the details of any chemical dosing plans for the hospital so cannot provide details on this. The word dosing would suggest injection of a specific chemical at a specific concentration / rate.

h) When was any dosing carried out to the water system?

A. I cannot recall details but believe this is something that was being investigated / planned during my time at the NHS.

i) Why was any such dosing carried out?

A. I can't recall the details of this.

j) What was the result of any such dosing?

A. I cannot be certain but I don't think that any live dosing took place while I was employed at the NHS.

k) Why was chlorine dioxide used in the cleaning regime? IMT Bundle1 (June 2023 Hearings), document 30.

A. I am unable to answer this.

19. Are you aware if concerns were raised about cleaning practices? IMT bundle 1 (June 2023 Hearings), document 22. Detail these concerns.

A. According to this reference it looks as though concerns were raised about cleaning practices.

20. What is your view on the adequacy of the cleaning practices within the QEUH?

A. I am unable to comment on the adequacy of these. Cleaning practices were not part of Estates area of responsibility.

21. Refer to IMT Bundle1 (June 2023 Hearings), – Document 12

a) What was the issue with the dishwashers?

A. I do not recall the issues with the dishwashers, but according to the reference document, there were a number of set-up issues in Paediatrics.

b) Who was responsible for their cleaning/maintenance?

A. I do not recall who was responsible for the dishwashers cleaning / maintenance.

c) what is FM First which you refer to?

A. FM First was the software system in place when I joined the NHS which was used to manage issues being raised by service users, assigning tasks to the Estates team and tracking the resolution.

d) What was the outcome in respect of the issues raised?

A. I cannot recall the outcome of the issues raised.

Drains

22. Did drain cleaning routinely take place within the QEUH/RHC before 2018? If not, why not?

A. I do not believe that drain cleaning was something that took place routinely immediately before 2018.

23. Are you aware why routine drain cleaning was not carried out?

A. I cannot recall the details but I vaguely remember some discussion around the guidance potentially having changed over the years. From memory, it may have been due to the risk of spreading bugs / bacteria further. Drains by design, have bugs / bacteria going through them from whatever is put into them / washed in them. The act of cleaning the drains creates a risk of contaminating the surrounding area of the sink.

24. Was this normal practice for a building/property of this size?

A. I am not able to confirm this.

25. Clearing of drains in June 2018 following water incident. What was the relevance and purpose of this? IMT bundle 1 (June 2023 Hearings) document 27.

A. I believe the cleaning of drains was intended to remove the particular bugs / bacteria of concern from the drain.

26. Are you aware if the actions taken resolved the issue?

A. A program of drain cleaning was created and carried out.

4. Do you know why expert advice was required?

A. I don't know why this was required. It may have been related to the guidance on drain cleaning compared with the issues being seen at the QEUH.

27. What happened in response to concerns about on-going maintenance and cleaning? What further action did you take personally?

A. Regarding drain cleaning, I worked with the Estates team at QEUH and coordinated with people from the clinical side to agree a sequence of cleaning to be carried out. I can't be certain but I believe patients were moved to accommodate this since it was determined to be too high risk to have patients in the room when this was done. A method for cleaning the drains that minimised the risk of additional contamination was sought.

28. What, if any, further steps should have been undertaken? Why?

A. I cannot provide details regarding what, if any, further steps should have been taken.

29. Refer to IMT Bundle1 (June 2023 Hearings), Document 26 re. drain measures. Do you recall these discussions?

A. No, I don't recall the specifics of these discussions.

a) What were the issues regarding biofilm in the drains?

A. I cannot recall the issue of biofilm in the drains.

b) What was the issue with the drains?

A. I remember there being issues with particular bugs / bacteria being found

when swabbing the drains.

c) What was the issue with the pipe work?

A. I do not recall the issue with the pipework but from reading the minutes, it sounds as though it was a concern about the use of metal parts in the system, at least one example of which was found to be rusty.

d) What steps were taken?

A. I do not recall the steps in regards to steps taken for the pipework. Again, from reading the minutes, it seems as though there was a plan for replacing this pipework in high risk areas.

30. Please refer to IMT Bundle 1 (June 2023 Hearings), Document 36
Here there is discussion regarding the planned cleaning programme of the en-suite and shower drains. Please provide details of the cleaning programme which is referred to and any actions taken.

A. I cannot recall specific details of the cleaning program or the actions taken.

31. Refer to IMT Bundle1 (June 2023 Hearings), document 38

e) Who was the drain contractor referred to?

A. I cannot recall who the drain contractor was.

f) Who was responsible for organising the drain clean?

A. I do not recall this but from the minutes, it sounds as though this particular contractor being referred to here, was not being contracted to clean drains, but to survey the drains with a view to comparing to drawings of the drain system.

g) What was your role in this?

A. I cannot recall the specifics of my role in this.

h) Do you recall anything specific regarding your meeting with the drain contractor?

A. No, I do not recall the meeting.

i) What was the outcome of the meeting with the drain contractor?

A. I do not recall the outcome of the meeting.

32. Did the drain survey match the sign off drawing from the two hospitals? If not, what were the inconsistencies. Please provide details.

A. I cannot recall whether there were inconsistencies.

a) Why was enhanced drain cleaning taking place on only Ward 2A and 2B initially?

A. I cannot remember the specific details of this but I assume it was due to the risk level of the patients, or related to the findings from the swabbing of the drains in those areas.

b) Were there problems with the drains in the other areas of the hospital?

A. I cannot recall whether there were issues with drains in other areas of the hospital.

c) How were wards prioritised for cleaning? Please provide details.

A. I cannot comment on the prioritisation. I would assume this would have been a clinical / infection control decision.

d) When did drain cleaning commence in other wards?

A. I cannot recall when drain cleaning commenced on other wards.

33. Refer to IMT Bundle 1, Document 39: Here you provide an update following the drain clean. Please provide details of this clean. What was the proposed plan of action? In your view was the drain clean successful?

A. I cannot recall the details of this drain clean. I am unable to comment on whether it was successful.

34. Refer to IMT Bundle – Meeting 18th September 2018 – Document 40 This meeting notes that access to Ward 1B has been challenging, please provide details of these challenges.

A. I am unable to recall the challenges in gaining access.

35. Specific rooms within CDU are noted to have been cleaned, how were these rooms selected? Were all the rooms within CDU due to be cleaned? Please provide details.

A. I cannot recall the specifics of this but from reading the minutes, it appears that clinical staff were identifying specific rooms to be cleaned.

36. Refer to IMT 25th September 2018 – Bundle 1 Document 43 – Please explain the circumstances as to why the agreed drain clean for Ward 2A did not proceed at planned?

A. I am unable to recall the circumstances around why this particular round of drain clean did not proceed as planned.

37. Who was responsible for communicating with the families in relation to this?

A. I am not sure who was responsible for communications to patients but this was not something estates were typically involved in.

38. Refer to email IMT Ward 2A, RHC - A43175004 (Bundle 27 Volume 3, Document 1, page 5)

Please explain the circumstances surrounding this incident. What were the circumstances which led to the delay in having the point of use filter fitted and drain clean completed? Was this issue successfully resolved?

A. The reference provided is unclear. I am not sure I am referring to the correct email for this question. In my answer, I am referring to the document I was provided with, which has filename “4445 2018- 10-02 2018-10-02 (14.41 Andy Wilson) RE IMT Ward 2A RHC.msg”. I am unclear what the first part of the question is asking regarding the circumstances. I cannot recall the situation described in the email so I can only answer based on the information contained in it, but it appears to be explained in the email. My interpretation of the email is that I was awaiting guidance on the rooms where work was to take place. This information came through in a separate email thread from the main one on the Friday when I was off work. I did not pick up the email on the Monday. It sounds as though there was a further meeting or opportunity for this to have been escalated and it was not. As soon as it was, it was actioned. I cannot recall whether the issue was successfully resolved.

39. Debris, including sponges, were found in the water tanks. What is the significance of this, if any, in relation to the wider issue of water contamination?

A. I am unable to comment on the significance of this but I would suggest it would seem significant and certainly not something that should be the case.

40. Concerns have been raised regarding the hospital design and the increased risk of water contamination. What is your view on the increased risk of water contamination in relation to the following:

a) Having a single barrier approach water system, resulting in fluctuating water temperatures

A. I am not sure what a single barrier approach water system is.

b) Ensuite bathrooms attached to each room

A. I am not able to provide an answer to this.

c) Overprovision of water outlets leading to sink removals?

A. I am not able to provide an answer to this.

41. How involved were you in the decision to use point of use filters?

A. I cannot recall what involvement, if any, I had in this decision.

42. Who was responsible for the effective management of and installation of the point of use filters?

A. I cannot recall who was responsible for this.

43. Did the point of use filters meet the water regulation requirements? Did they have an effective gap between the water level and the filter to prevent contamination?

A. I am not able to confirm whether they meet water regulation requirements.

44. Why were the point of use filters not introduced earlier?

A. I cannot recall why point of use filters were not introduced earlier.

45. How often were you aware of the filters being changed? Were the manufacturer's recommendations followed?

A. I cannot recall how often these were changed or whether the manufacturer's recommendations were followed.

46. What was your involvement in water sampling and testing?

A. I did not directly carry out sampling or testing but for specific sampling directed by the IMT group, I would likely have been responsible for ensuring this was delegated and carried out by the estates team.

47. What was your involvement in water sampling and testing in relation to point of use filters? What was the outcome of this testing?

A. As above.

48. What was your involvement in water sampling and testing in relation to taps? What was the outcome of this testing?

A. As above.

49. What was your involvement in water sampling and testing in relation to showers? What was the outcome of this testing?

A. As above.

50. Whose had responsibility for water sampling and testing?

A. I cannot recall whether sampling and testing was typically carried out by the internal estates team or by a contractor, but overall this would have been the responsibility of the estates team.

51. How were results communicated to other teams, such as ICPT?

A. I cannot recall how results were communicated. I cannot recall what ICPT refers to.

52. Are you aware if any testing result were ever withheld deliberately from other teams within the hospital?

A. I am not aware of any test results being withheld.

53. 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. If true, this would have been inappropriate.

b) Why did estates direct that microbiologists should not have access to water testing results?

A. I do not recall estates directing this.

c) Have you ever been advised not to contact someone/ not to provide water testing information? If so, when? By whom? And why?

A. I do not recall being asked not to contact someone regarding this.

d) Have you ever refused, or directed others to refuse to provide water testing information requested by microbiologists or infection control? If so, why? Provide as much information for your rationale and the consequences of withholding information.

A. I do not recall refusing, or directing others to refuse to provide water testing information to microbiologists or infection control.

e) Provide information on how you dealt with requests for water testing results from microbiologists and infection control – was all the information requested provided? If so, what was provided? If not, why was paperwork not provided?

A. I do not recall how requests for water testing results were dealt with.

f) Who was responsible for dealing with these requests for information?

A. I cannot recall specifically who was responsible for dealing with these requests but I would expect that there could have been a number of people in the estates team who could have received requests for this type of information.

g) What was your role in dealing with these requests for information?

A. I do not recall any specifics of dealing with these requests for information.

h) How were these requests for information managed by estates? What

steps did you take?

A. As above.

i) What concerns, if any, did you have with how matters were being handled? If so, what steps did you take in response to these concerns?

A. I cannot recall having any specific concerns around these requests.

54. Do you recall any other specific incidents relating to water? Please provide details.

A. No.

Taps

55. The use of Horne Taps was discussed in the IMTs relative to the water incident. Refer to IMT Bundle document 18
Please confirm:

a) Your understanding of use and function of Horne taps.

A. I cannot recall the specific use and function of Horne taps compared to any other type of tap.

b) Who authorised the use of Horne taps? Where were Horne taps used?

A. I don't know.

c) Why were Horne taps selected?

A. I don't know.

56. Flow straighteners: when did you become aware that they were non-compliant with SHTM 03-01 guidance? Do you know if they were non-compliant at handover?

A. I am unable to recall.

57. Were new taps replaced in January 2019? If so, why were they replaced? Where were they replaced? What were they replaced with? Was the replacement related to the use of chlorine dioxide?

A. My last day on site for the NHS was in December 2018. I was no longer employed by the NHS at this time.

a) The Inquiry understands that there was a view within Estates that this was potentially sabotage by the contractors due to issues they had about how they were getting paid. Please discuss this.

A. I do recall hearing this. I could not say what the motive would have been for this. I cannot recall what would have made people believe this could be the case.

b) What actions were taken in respect of dealing with the debris?

A. I cannot recall what action was taken.

58. Refer to Water Technical Group – Bundle 10, Meeting 11th July 2018, Document 14

a) Explain the chemical dosing of the water system.

A. I cannot recall the details of the chemical dosing of the system.

b) What is shock dosing?

A. I cannot recall the details of this.

c) What is the purpose of the continual dosing?

A. I cannot recall the details.

59. Refer to Water Technical Group, Bundle 10, Meeting 10th August 2018 and meeting 31st August 2018 - Documents 19 and 22
Here it states that HPS had requested a further drain clean in Ward 2A after finding a fine film and this was one of the first areas to be cleaned.

a) How frequently were drains required to be cleaned?

A. I cannot recall the details but I don't believe there were any standard requirements for drain cleaning at the time. I cannot recall if there was a frequency agreed at the time.

b) Was there a cleaning program in place?

A. I cannot recall if there was a specific program in place. From the document 19 reference, there is mention of a 3 month replacement program but I cannot recall what this referred to, or whether drain cleaning was agreed to be done at the same frequency.

c) Who was responsible for this?

A. This would have been the responsibility of various roles within the estates team, and whatever program had been agreed, would have been done through discussions at meetings such as the IMT with input from other areas such as infection control.

d) What effect did this have on patients and families?

A. I cannot be certain of the impact on patients and their families but I would expect this created significant disruption and concern.

60. Refer to Water Technical Group, Bundle 10, Meeting 9th November 2018 – Document 30 – Contamination of water system: The minutes state that it was reported the system had water in it for around 9 months during building and employees had not been aware of any flushing taking place. Please provide details of this.

A. I cannot provide any more details than exist in the reference document.

Working Environment/Culture at QEUH

61. What was the working environment like when you worked at the QEUH – work life balance/ workplace culture? What issues, if any, were you aware of? What was your experience of this?

A. Environment was very challenging. Huge requirements to maintain the estate with limited resources and budget.

62. Generally, discuss the workplace environment and culture. What concerns, if any, did you have?

A. Nothing further to add.

63. Dr Inkster in her statement refers to a meeting which you attended in December 2018 whereby she was advised by Professor Tom Steele not to put things in writing because then they would be, “out there”. Are you aware of instructions not to put concerns in writing? Please provide your view on Dr Inkster’s statement.

A. Unable to recall.

64. In your view, were the concerns raised by infection control colleagues regarding the general build of QEUH/RHC taken seriously? What action was taken in response to these concerns, if not already mentioned in your answers?

A. I think from the number of groups and meetings that were running, focused on the concerns put forward by infection control, that this was being taken very seriously. The amount of time, money and resources directed towards resolution would not have been done were it not taken seriously.

65. Is there anything further that you want to add that you feel could be of assistance to the Inquiry?

B. No.

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

Appendix A –

A37994422 – Bundle 12
A34348232 – Bundle 12
A36629319 – Bundle 1
A38694848 – Bundle 4
A38694849 – Bundle 4
A33870103 – Bundle 6
A33870243 – Bundle 6
A36706508 – Bundle 1
A36690462 – Bundle 1
A36629302 – Bundle 1
A36629309 – Bundle 1
A36629315 – Bundle 1
A36629310 – Bundle 1
A36629324 – Bundle 1
A36690507 – Bundle 1
A38668897 – Bundle 10
A38668875 – Bundle 10
A36399529 – Bundle 10
A36407737 – Bundle 10
A43175004 – Bundle 27 Volume 3

Scottish Hospitals Inquiry
Further witness statement of
Mr. Kerr Clarkson

1. Please confirm the identity and specific job role/titles of the Microbiologists and IPC Team members who are now sent the details of the out of specification water testing results for the QEUH/RHC.

A. DMA take samples from outlets following and agreed schedule. The majority of these are sent to the Glasgow Royal Infirmary Microbiology Labs for processing. If there are any concerns the Labs will inform Consultant Microbiologist/ Infection Control Doctor and they will discuss any actions with Estates. This can be before the Labs send the results back to DMA. Additional samples are taken by DMA and sent to Intertek Labs for processing. If any major issues, Intertek will inform NHS Estates who will then share information with DMA and Consultant Microbiologist/Infection Control. DMA then collate all of the details into specific spreadsheets and are sent to the following people by DMA- **Appendix 1**. (Note list has changed slightly based on discussions re distribution list. Examples also in **Appendix 1** of distribution). Any out of specs are analysed by Estates. Infection Control and Facilities are informed who will review clinical practices/flushing, cleaning/flushing regimes respectively. Any outlet with an out of specification is given a full maintenance and disinfection by Estates Competent persons. Outlets are resampled by DMA until 3 water sample results not detected (or within parameters). DMA will also add these to temporary flushing regimes. Discussions can take place with Consultant Microbiologist/Infection Control Doctor on further actions. Regular summaries are sent to Consultant Microbiologist/Infection Control Doctor, Director Infection Control, Water AP, Water RP and Water Assistant Designated person.

2. Please **refer to Bundle 15, page 692**. This is the Minute of the Special Meeting on 5 June 2014 regarding the Horne Optitherm Taps. Please draw your attention to the final sentence of item 5.3 and answer the following questions by reference to records held by the Estates Department:

a. What routine management or maintenance process or processes were in place for these TMV and TMT taps across the hospital at each of handover, April 2015, January 2018 and March 2020?

A. It is my understanding that no flow straighteners on Horne Optitherm taps were exchanged prior to June 2018. Flow straighteners were removed from Horne Optitherm taps to facilitate the connection of a point of use filters in high risk areas starting in 2018. Flow straighteners were also removed from Contour taps and bioguards' fitted with no mesh on outlets where point of use filters were not installed. Additionally point of use filters were installed on all other taps and showers in high risk areas. Point of use (POU) filters in high risk areas are exchanged at 31 or 62 days depending on what model has been installed on these outlets. Therefore there are no flow straighteners on Horne Optitherm (or Contour) taps in high risk areas, to this day. Flow straighteners continue to be exchanged quarterly on Optitherm taps in low risk areas by DMA. On reviewing the Water History document some records existing for TMT checks in 2016 in certain areas (April, May, Jun, July, Aug, Nov & Dec) in 2017 March, May, July, Aug, Sep, Nov and Dec). Jan 2018 and Feb 2018, May 2019 and June 2019 (I believe the records have been provided to the Enquiry of all TMT maintenance records). In 2020 a Board wide Tender Users Group (TUG) was set up to tender for TMT maintenance including 6 monthly (minor – Anti scald thermostatic performance – slam test e.g. checking in the event that the cold water is lost the tap switches the hot off) /annual (major - includes cleaning of strainers, cartridge and also slam test). The plan by Procurement was for this to be implemented Board wide during late 2020. However this did not progress although and we were informed by a Procurement Officer. However unaware of who made this decision? The tender was placed on hold by Procurement until 2021/22 work calendar which also did not progress. QEUH Operational Estates had only been given permission and budget in 2021 for the water service provider to initiate a programme of minor maintenance TMT tests. It was escalated in March 2021 with concerns that the annuals were not being carried out. In the absence of any tender, the decision was made by Euan Smith (RP) to start implementing a major TMT maintenance programme in 2022 and continue in 2023 and 2024 onwards. Additionally ideally to carry out minor maintenance also (at 6 months). However resource/resource retention, number of TMT's over the entire campus, budget, combined with access

due to design of high risk rooms (which require patient vacated to allow IPS panels to be removed presented and still presents a significant challenge as identified on the AE report to gain access). However further mitigation is in place such as point of use filters, Cl02 and an extensive sampling regime e.g. in RHC 2A/2B all outlets are sampled monthly. There are also no Optitherm taps in RHC 2A/2B. In July 2022 a Board wide water management tender was initiated by Procurement and this included board wide, a 6 monthly minor maintenance and annual maintenance. Tender was published in September 2023 with a deadline for response in November 2023. Procurement awarded the contract in July 2024. Following this DMA were awarded the contract for QEUH. DMA have been instructed to provide detailed monthly reports for TMT maintenance, to escalate to an Authorised Person for water any denial of access, to ensure denial off access forms to be signed by Clinical Staff, to try and access where possible again and escalate to Water AP to follow up with Senior Management if still no access.

b. Are you aware of whether the taps had been pressure tested by manufacturer prior to delivery, and if so whether they had also been sanitised by the manufacturer before being made available for installation? Was this known or enquired about at the time of installation? Were the installers of the taps safety competent, i.e. were they using clean tool etc, and if so, what risk assessments are you aware of, if any, having been take prior to installation? Are there any records kept in respect of these matters, if so where?

A. I started with NHS in June 2018 and cannot make comment prior to this unfortunately of what was agreed or original methodology for installation. However any replacement outlets or component added to the water system, would be spray or dip disinfected before being installed, depending on the size of the component. This includes any Optitherm taps (replacing like for like) by a Competent Person (CP) for water. Additionally constant dosing of CL02 is implemented at the QEUH and means of constant disinfection. It is my understanding that the formal City & Guilds CP training and subsequent AP approval includes use of clean tools and disinfection. (For example **QEUH L8 Team "QEUH RHC 2.doc"**). The manufacturer of the Horne Optitherm tap has indicated that taps are wet tested to check the slam shut operates and standing water removed prior to capping and

shipping and are not disinfected. Other manufacture asked indicated they pressure test with air and tap capped immediately afterwards.

c. When did regular cleaning of the Horne Optitherm Taps/ TMVs start in Ward 2A/2B, Ward 4C, Ward 4B and Ward 6A?

A. Physical cleaning of all taps is carried out daily by Facilities Domestics. Flow straighteners were removed from these taps on 16/03/18 2A/2B, 22/03/18 4C, 20/03/18, 4B and 24/09/18 6A to accommodate point of use filters. 2A/2B - Some records exist for Apr & Dec 2016, July & Aug 2017, Feb 2018 (Annual). Ward closed between 2018 and in 2022. Optitherm Taps in these wards were replaced with Marwick in 2018 and the ward closed in September 2018. As part of the construction project within 2A, new Marwick 21+ taps were introduced in 2022 (as noted in pre-occupation risk assessment). Since the Ward has re-opened, access to rooms has proved challenging to carry out maintenance due the requirement for patient to be vacated compounded by resource availability and number of TMT's over entire campus. Plan has been agreed with DMA and the service provider who carries out vent cleaning in conjunction with Clinical, to enable TMT's to be accessed at the same time when room is vacated. All outlets in 2A/2B have point of use filters and are sampled monthly including for gram negative bacteria as risk reduction measures. 4B/4B2 – Jan 18, April 22, Jan 24(2 rooms only), Aug 24.

4C – July 16 May/Nov 17, Feb 18, June 22, Aug 24.

All wards above are fitted with POU's and sampling monthly to check system supply water on outlets in Clean utilities. Access to rooms can prove challenging to carry out maintenance due the requirement for patient to be vacated, room placed under HAI SCRIBE, together with Clinical permission due to patient and bed pressures.

6A – Apr 19 (5 Rooms in service test, Feb 20, May 22 & Aug 24. The ward was previously high risk and is still fitted with POU's. Summary on **Appendix 2**.

d. Have there been gaps in regular cleaning or maintenance of the Horne Optitherm Taps/TMVs in those wards, If yes, when were those?

A. Ward 2A/2B was closed for a construction project between September 2018 and March 2022. Gaps noted above in Point C for TMT maintenance. Note : Covid restrictions had in an impact in the ability to carry out certain maintenance in 2020.

e. What, if any, risk assessments have been done regarding the installation, usage and maintenance of these taps since the meeting of 5 June 2014?

A. For all newer installations the tap of choice Board wide is Marwick 21 (21+ now) since 2015. Taps were changed in 2018 in RHC Ward 2A from Optitherm to Marwick. As part of the subsequent construction project in Ward 2A these were changed to Marwick 21+ in 2022. The previous Marwick taps had to be 'sacrificed' to allow a system disinfection as part of commissioning. On discussion with tap manufacturers they indicate that any high level of disinfection will invalidate warranties and can lead to earlier deterioration of tap internals. It is my understanding that the Water Technical Group in 2018 analysed the ongoing use of the Optitherm taps and agreed these could still be used. However all taps and showers in high risk wards including the Optitherm taps have point of use filters fitted and therefore no flow straighteners are installed. For non-high risk areas the flow straighteners are discarded and changed for new, every quarter by DMA. Recent sampling result by Intertek (2024) on flow straighteners indicated this could be considered to be changed from quarterly to six monthly. No action taken so far on extending this. There is an ongoing significant sampling regime which includes Optitherm taps and this does not appear to indicate any trends. If there were issues/concerns these would be discussed at Water Sector Meetings or regular dialogue with Microbiology/Infection Control with sample results and risk assessed. If an out of specification is found in an outlet it is given a full maintenance and disinfection by NHS trained competent persons.

3. Which wards were the 'high risk areas' at QEUH/RHC where point of use filters were fitted and remain in use?

A. Attached is the table which is being used as part of the consideration for removal of POU's in non-high risk areas which also details POU's fitted in high risk areas.

Appendix 3

4. Which wards contain the ‘high risk rooms’ where pressure testing and revalidation is required once works have been carried to windows and doors to the corridor?

A. It is my understanding from a Ventilation AP that there is no requirement within SHTM03-01 for the ventilation system to be revalidated as there no alteration or repair work directly linked to the ventilation system. They have also informed me that there is also no specific guidance for carrying out a pressure test. However the magnehelic gauge would indicate the pressure cascade from widows/doors to corridor for each room. An air permeability test could be considered for reassurance if there were concerns. However a ventilation AP would be best placed to provide further clarity on the above. Attached **Appendix 4 details PPVL rooms**

Declaration

6. 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.

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

8. The witness verbally introduced or provided the following documents to the Scottish Hospital Inquiry for reference when they completed their questionnaire statement (Appendix B)

Appendix A

A47392376 – Bundle 15 – Water PPP (External Version

Appendix B

A50083022 Appendix 1 - Distribution list from Draft water safety plan with examples of emails being sent historically - Bundle 27 V11, Doc 12, Page 75

A50083018 Appendix 2 - TMT, flow straightener maintenance Summary - Bundle 27 V11, Doc 13, Page 77

A50083020 Appendix 3 - Point of use filter locations and totals 2023 - QEUH Campus - Bundle 27 V11, Doc 14, Page 79

A50083019 Appendix 4 - PPVL Room - Bundle 27 V11, Doc 15, Page 81

A50083021 QEUH & RHC 2.doc - Bundle 27 V11, Doc 16, Page 82

SCOTTISH HOSPITALS INQUIRY

Bundle of documents for Oral hearings commencing from 19 August 2024 in relation to the Queen Elizabeth University Hospital and the Royal Hospital for Children, Glasgow

Witness Bundle – Other Statement Only – Volume 9

A50380465