

## **Scottish Hospitals Inquiry**

### **Witness Statement of Questions and Responses**

**Thomas Romeo**

*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.** Thomas Romeo.  
Electrical Apprenticeship, HNC Electrical Engineer and BEng Engineering Management. I don't have an up-to-date CV

#### **Professional Background**

2. Professional role(s) within the NHS.  
**A.** Electrical Technician , Electrical Supervisor and Estates Manager
3. Professional role (s) at QEUH/RHC, including dates when role(s) was occupied.  
**A.** Duty/Estates Manager. QEUH Duty Estates Manager 2015, QEUH Estates Manager June 2017 to March or April 2018
4. Area(s) of the hospital in which you worked/work.  
**A.** Whole Hospital old and new as Duty estates manager

- a) Which particular areas of the hospitals “old and new “?
- A.** My area of expertise/training was electrical as QEUH Duty Manager the QEUH (New hospital) during the day as required, nightshift the whole site Old and New as required. As Estates Manager Dayshift (New hospital) as required QEUH
5. Role and responsibilities within the above area(s)
- A.** I Managed Emergency breakdowns dealing with contractors from 2015 to June 2017, from June 2017 for 8 months PPMs & dealing with contractors.
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.** David Bratley and Colin Purdon
- a) Please provide dates as to whom you reported to
- A.** I don't know the exact dates, all I know is when David Bratley retired then I reported to Colin Purdon. There will be records of David Bratley' s retirement held somewhere in HNS records.
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.** Alan Gallacher & Ian Powrie can't remember the process, however there where many elements.
- a) Please describe the “many elements”.
- A.** It was 11yrs ago I don't remember, however there must be records within the NHS records files. All I know all the Duty Managers that worked in the QEUH went through a selection process.

8. Had you worked with any of your QEUH/RHC estates, project team or management colleagues prior your role(s) at QEUH/RHC? If so, who had you worked with before this current role? When did you work with this/these colleague(s)? What role were you in when you worked with this/these colleague(s)? How long were you colleagues in this/these previous role(s)?
- A.** No

### **Estates QEUH/RHC**

9. In January 2015, how many people worked in Estates? Did the number of people working in Estates change during your time at QEUH, if so how so?

**A.** I'm not sure as there were day shift, duty shift and old hospital day shift

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

**A.** The communication was good, however I can only speak for the staff I was managing at any one time

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

**A.** The work completed was recorded on the NHS PDA system, PPM and contractor paper works where logged in binders and stored for the allotted time scale.

- a) Please explain the workings of the PDA and PPM systems and their functions

**A.** PDA this was a hand held device carried by all maintenance staff, this device recorded jobs the maintenance staff got individually. The ward or department would log issues and faults on their work station computer, this in turn would go on to the maintenance data base which the estates supervisors had access to. They would allocate the works to the appropriate staff, the staff who logged the fault could check the process of the logged jobs. Once a particular job was complete it would be signed off by the maintenance staff, it will also show on the maintenance data base as completed. PPM (Planned Preventative Maintenance) where carried out to ensure the equipment worked

within the required design and operation specification, and is fit for purpose as per the appropriate SHTM (if appropriate)

12. Which other QEUH teams or departments, if any, did you work closely with?
- A.** When I was Duty estates manager I only worked closely with estates duty shift workers, when I worked as a day shift estates manager I worked more closely with more estates workers.
13. Please describe your working relationship with these QEUH teams or departments (including areas of hospital work on).
- A.** I believe my working relationship with everyone I came into contact with during my time within QEUH was professional.
14. What concerns, if any, did you have about any member of staff? If so, please describe these concerns. What action, if any, did you take in relation to these concerns?
- A.** I had no concerns about any Estates staff.
15. What concerns, if any, were ever raised about management/ managers? If so, please describe these concerns. What action, if any, did you take in relation to these concerns?
- A.** None to my knowledge.

### **Training**

16. What formal training or qualifications do you have in of the following:
- a) Water
- A.** Mandatory L8 training in 2012 – All NHS staff had this classroom training. All NHS staff had to attend these class room courses, I attended on at Glasgow Royal Infirmary 2012, I can't remember what was involved, however there will be record held within the GGC NHS Data base of the course content

- b) Ventilation  
A. CP training in 2012 C&G.
- i) What was involved?  
A. You had to show your competence in safe isolation & lockoff of electrical equipment, along with a City & Guild theory exam. All records were held in the Operational Procedures folder.
- c) Infection Control  
A. This was mandatory training, which everyone in the NHS had. IC gave guidance notes and gave instruction when and if required.
- i) Please describe the nature of the training and give examples of situations in which instruction would be required  
A. I can't remember the exact content of the training, any works being carried out within a ward had to have had a HAI scribe completed and passed by all named persons on the HAI Scribe
17. 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. I'm a qualified electrician SQA, a HNC SQA in electrical engineering and a BEng in engineering management UWS. My qualification were relevant as my area of expertise was electrical, electricity is in part of every of the systems within any hospital not just QEUH
18. What specific roles or duties within the estates team have you had in water systems operation or maintenance? How long did you have these roles and duties?  
A. I arranged maintenance and sampling by DMA Canyon, I was in this role for around 8 months, from June 2017.

19. How aware were you of any specific legal responsibilities/ obligations when working with the water systems. If so, please provide additional information.
- A.** The only person who had legal and obligation responsibilities was the AP (Authorised Person) for the water system, I had no AP training for the water system while employed within the NHS. My role from June 2017 for 8 months, was to arrange water sampling and flushing from DMA Canyon in critical areas of the QEUH/RHC and any other sampling, flushing and any other instruction from Infection and Control. The only other guidance available for the water system was SHTM 04.
20. If you did not have any roles or responsibilities in relation to the water systems operation or maintenance:
- a) Who did?
- A.** As far as I'm aware no one within the QEUH/RHC had AP Water training.
- b) What were these responsibilities?
- A.** The AP Water roles and responsibilities would have been explained during the AP water course, the SHTM 04 could be used as guidance.
- c) What did you understand the responsibilities to be?
- A.** I'm not qualified to say, However my understanding of an AP duties was to keep everyone within the hospital safe as reasonably practicable and follow the IC (Infection Control) instruction and follow the guidance of SHTM 04.
- d) How aware were you of any specific legal obligations/ responsibilities? If so, please provide additional information.
- A.** Water Risk Assessment were reviewed annually and risk assessed every 24 months, critical areas were flushed and sampled.
21. What specific roles and duties did you have in the ventilation systems operation or maintenance ?
- A.** From June 2017 (for 8 months) I issued PPMs via NHS PDA (and accompanying/documentation paper work) to estates staff as per SHTM 03, annual AHU inspection for critical areas were carried out by external

contractors H&V. All documentation were stored for the allotted time scale as per SHTM 03, during the time at QEUH I didn't have AP ventilation training. The only guidance used was SHTM 03.

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

**A.** I don't know.

b) What were these responsibilities?

**A.** To ensure compliance.

c) What did you understand the responsibilities to be?

**A.** Although not trained as AP for Ventilation at the time stated in Q20, my understanding of an AP duties was to keep everyone within the hospital safe as reasonably practicable and follow the IC instruction and follow the guidance of SHTM 03.

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

**A.** My role was to allocate maintenance documents (as per SHTM 03) for maintaining the AHU within QEUH/RSC especially in critical areas, ensuring they were tested annually by qualified external contractor and follow the IC instruction and follow the guidance of SHTM 03.

22. 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 the size of those systems compare to working on the QEUH? What was your role and duties?

**A.** I had never worked on any large scale water system before working day shift (June 2017) in QEUH, I was a estates supervisor at NHS GRI where I issued PPMs for ventilation and electrical works.

- a) Please describe the process as to why /how PPM`s were issued for ventilation and electrical works.
- A.** The PPM were issued to the maintenance staff via their PDA's along with paper work to complete, once their tasks were complete they would sign off the task on their PDA, the completed paper work would have been placed into the ventilation binder under that AHU. Any part used would be reordered, to ensure sufficient supply of filters and belts for each AHU were available

### **Documents, Paperwork, and Processes in Place as at 26<sup>th</sup> January 2015**

We know that handover of QEUH occurred on 26<sup>th</sup> January 2015:

23. Describe the site when QEUH/RHC at handover in January 2015.
- A.** Not sure what you mean, as every new build requires snagging.
- a) What was the state of the site on handover?
- A.** I'm no builder as I stated all new builds require snagging
24. How long 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? What concerns, if any, did you have?
- A.** Not sure how long Multiplex remained on site, they had to sign every time they were on site. They had a list of works to carry out, don't know who they reported to or where their completed recorded were kept.
25. Operating systems at handover:
- a) How many staff were allocated to maintaining operating systems and how was this determined?
- A.** Can't remember, as I had other works to manage.
- b) What training was put in place for maintaining the operating systems?
- A.** The estates staff at the handover would show the remainder of the estates staff from the other closing hospitals.



- i) Which estates staff would carry out this task and what did the task involve?  
**A.** I can't remember being there at any of these training sessions.
- c) Who carried out the training? Refer to **Estates Communication Bundle document 5 – 'Brookfield Multiplex Client Training & Familiarisation Register for Ventilation'**.  
**A.** Not sure, I remember David Wilson from Brookfield being present at the training session and the contractors who installed the system.
- d) To what extent, if any, were Multiplex involved in the training?  
**A.** David Wilson was present at most if not all training sessions.
- e) How extensive was the training provided to allow staff to operate the systems?  
**A.** No training lasted more than a few hours, however the equipment installed within the QEUH was similar to the equipment from the hospital the estates staff came from. Apart from being newer and better technology, as a result this training was required.
- i) What did the training involve?  
**A.** I can't recall, it might have been a presentation of how the equipment worked
- f) Please list the manuals/ documents that were handed over.  
**A.** It was 9 years ago can't remember, however documentation did accompany the equipment installed.
26. Detail the snagging process, refer to **Estates Communication Bundle, documents 90 and 91** when considering your answer detail:  
**A.** I don't have an answer to this as I wasn't directly involved
- a) What happened
- b) How long were Multiplex on site following handover
- c) Main areas for snagging
- d) Records of works carried out
- e) Sign off – who as responsible and when signed off.

- f) How satisfied were you with the snagging process?
- A. Instruction was given to sign in the snagging teams, they had (I think an A4 or A3) sheet with the areas that required snagging works to be carried out.
27. Refer to **Estates Communication Bundle document 113**:
- a) What is this? What was your involvement?
- A. No involvement.
- b) Why was it issued in 2017 and not earlier?
- A. Senior estates managers might know the answer to this or the project team as CAPITA where the project team I think.
- c) At **page 855** there is reference to the Estates' meetings regarding the supervisors report, was all the work carried out? At close what, if any, works remain outstanding?
- A. The best people to answer this question are those who attended the meeting.

### **Asset Tagging**

28. Describe and detail asset tagging:
- a) What is this? Why is it important?
- A. This is an ID Number on every piece of equipment, for the full life time of the equipment to ID any repair records, condition and fit for purpose.
- b) Who was responsible?
- A. I don't know.
- c) What was the impact if this was not done?
- A. It would be more difficult to track the equipment and it's condition.
- d) What concerns, if any, did you have about this?
- A. I had no concerns about this, as any piece of equipment I noticed which was operational had an ID Tag.

e) How did you escalate these concerns? If not, why not?

**A.** I had no involvement in this process

f) What actions, if any, did you take to address any asset tagging issues?

**A.** I had no involvement in this process

29. The Inquiry understands that there was a CAMF system in place at QEUH/RHC. In your answer provide details of who this was reported to, what action was taken to remedy matters.

a) What is the purpose of CAMF, and who was responsible for providing this?

**A.** It was software for tracking assets inventory, I had no involvement with this system.

b) How does ZUTEC differ from CAMF?

**A.** I don't know.

c) Who was responsible for ensuring provision of CAMF and ZUTEC? What would happen if it was not provided?

**A.** Sorry, don't know.

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

a) Operation

**A.** Don't know of any.

b) User suitability

**A.** Was okay.

c) Any other matters

**A.** No

31. Who was responsible for developing a system for asset registration? when and how long did it take following handover?

**A.** Sorry, don't know.

## **HEPA Filters**

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

a) Were you aware of this at the time? If so, what was the impact of HEPA filters not being installed?

**A.** I wasn't aware of this as I had no involvement with the ventilation at the time of handover.

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

**A.** Sorry can't answer this question, as I don't know

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

**A.** At the handover time I don't know.

33. To what extent, if any, were HEPA filters installed in the relevant rooms at handover (January 2015)?

**A.** I wasn't involved in the ventilation system at the handover

34. To what extent were HEPA filters missing from any other wards following handover?

**A.** I don't know

a) What actions were taken to address missing HEPA filters?

**A.** I don't know I wasn't involved

## **Chilled Beams & Thermal Wheels**

35. To what extent, if any, is the use of chilled beams in areas housing immune compromised patients compliant with SHTM guidance?

**A.** I do remember there was an occasion when the chilled beams came up, however I never had any involvement in the maintenance of them.

36. If you have answered no to the above, what was the potential patient impact?
- A. I'm not qualified to say
37. Describe your understanding at the time of the cleaning regimes in place for chilled beams? To what extent were you involved in the cleaning regimes for chilled beams?
- A. I had my own work to carry out, I wasn't involved in the cleaning or maintenance regime for chilled beams.
38. What specific events do you remember in relation to chilled beams?  
For example:
- a) Dripping chilled beams in critical care refer to **Estates Communication Bundle, document 63.**
- b) Issues with dew point controls refer to **Estates Communication Bundle, document 65.**
- c) Ward 2A cubicles 8-11 refer to **Estates Communication Bundle, document 106, in particular page 821.** In particular consider the issues with dust collecting on the chilled beam units, the PPM actioned in response and the work that you carried out in response to the issues, was it effective, was it timely? Do you consider the PPM to have been reactive rather than proactive? How was your working relationship with infection control colleagues in dealing with this situation.
- d) Water samples being taken from chilled beams in Ward 6A refer to **IMT Bundle, document 73.**
- e) Dripping condensation panels and chilled beams **Estates Communications Bundle, document 153.**
- f) Any other issues/ incidents not mentioned above.
- A. I'm not sure of the issues with the chilled beams, however I do remember something being mentioned about them but I was not involved in chilled beam maintenance. As far as I'm aware there were no chilled beams within isolation rooms. With regards to IMT Bundle Doc 73, I had left QEUH by then. I have looked at the email in Doc 153, Bundle 12 and I was either duty estates manager with no involvement in any maintenance at QEUH or had left the QEUH.

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) What, if any, external organisations were 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) How was the issue resolved – consider any ongoing aftercare/support/monitoring;
- j) Any ongoing concerns witness had herself or others advised her of?
- k) Was there any documentation referenced during or created after the event. For example, an incident report?
- l) Who, if anyone, signed off the work to confirm it had been completed and the issue resolved/area safe?

Write your answers above in the relevant section.

39. To what extent, if any, was the use of thermal wheels in areas housing immune compromised patients compliant with SHTM guidance?
- A.** As far as I'm aware no thermal wheel AHU were used in supplying ventilation to Isolation rooms Operating theatres.
40. If you have answered no to the above, what was the potential patient impact?
- A.** I'm not sure.
41. What specific events do you remember in relation to thermal wheels?
- 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 any external 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) How was the issue resolved – consider any ongoing aftercare/support/monitoring;
  - j) Any ongoing concerns witness had herself or others advised her 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.
- A.** Don't recall any issues with the use of the thermal wheel AHU, if there was why would it have been designed and passed before installation

### **Water Guidance and Obligations**

42. What guidance applies to water? How did you/others ensure that guidance was complied with?
- A.** SHTM-04, it was the AP for waters duties to ensure compliance.
43. Who was responsible for ensuring a safe water supply following handover?
- A.** Sorry don't know, as my area was electrical HV and LV and Medical Gas (Low hazard) at that time.
44. What water safety training was provided to all maintenance staff, estates officers and contractors?
- A.** The only training I had was mandatory L8 awareness training in 2012, this was for all NHS staff, There was obviously plumbers within the NHS staff, As I didn't work that closely with them I could say. The contractors I got in (from June 2017 to I think Feb 2018) to carryout flushing and testing where for DMA Canyon who were fully qualified. They had to submit a RAMS before carrying out any works on the water system.

45. What was your knowledge and understanding of Health and Safety regulations on control of legionella at the point of patient migration to QEUH/RHC?
- A.** As I mentioned my area of qualification was electrical not water, as a result I wasn't involved with the water system at the migration time.
46. What legionella training was provided to all maintenance staff, estate officers and contractors. Please describe and detail what was involved?
- A.** I can only speak for myself, I only had Legionella awareness training the same as every NHS employee has to get. The L8 training was a class room exercise, I don't remember the exact content of the course. I'm sure there will be records somewhere of the course content within NHS data base
47. What water borne pathogens (other than legionella) training was provided to all maintenance staff, estate officers and contractors?
- A.** As I wasn't involved in the water system nor the AP for water, I didn't have any other water training.
48. Who was the Duty holder?
- A.** A duty holder has to be appointed not delegated. During my time as day shift estates manager no one was the duty holder for water.
- a) Why was that?
- A.** That's a question for senior estates manager to answer.
49. How aware were you of obligations to appoint an authorised person or the like to discharge water supply safety? If so, who was appointed? When, for what period? If not, why not? Did you ever hold any of these roles in respect of water?
- A.** I wasn't in a position to appoint anyone or was ever appointed as an AP or duty holder for water systems within QEUH/RHC.



- a) Who was in a position to appoint someone?
- A.** GGC NHS Board appoints AP's after the person has successfully completed the appropriate AP's course and the AE is satisfied that the person being appointed has the knowledge of the system they are being appointed for.
- b) What skills, knowledge or experience would be required of a person filling this role?
- A.** AP water training course then has knowledge of the site water system, before being assessed by the AE water system then they are appointed by the GGC NHS Board. The person being appointed AP water system also has to agree the appointment.
51. What concerns did you have, if any, about specific roles not being filled? If you held concerns did you escalate these, if so to whom?
- A.** When I moved from the Duty Estates manager to day shift estates manager, I found out only after I got the job what my duties were going to be. I informed David Bratley I would not be the person responsible for the water system due to my lack of knowledge in this area. However I would liaise with contractors (DMA Canyon) to carry out flushing and sampling of the critical areas within QEUH/RSC. In fact within 2 months of moving to day shift I secured a role as Estates manager (Electrical and Medical Gas) at the RAH Paisley, however I wasn't released from QEUH until March 2018. I don't know the reason why there was a delay.

### **Water - Commissioning and Validation (C&V)**

52. What commissioning and validation documentation did you see before handover in 2015 – if not, who would have had sight of this?
- A.** I didn't see any commissioning and validation documentation, it would have been the projects team.

53. Where is this commissioning and validation documentation (“C&V”) stored generally on the hospital system?
- A.** I’m sure it was electronic data base and a hard copy.
54. What is the purpose of C&V?
- A.** It could be used as a reference point and to see how the installed equipment is working and show up any issues in future.
55. What are the consequences of it not being carried out?
- A.** If there was no C&V, you could not monitor and regulate environment which the equipment supplies.
56. 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.** Don’t know how many records were kept, However for water, Medical Gas, Ventilation, and electrical system maintenance, according to the SHTM it was 5 years. I only had 8 months storing maintenance records, the documentation was stored as per SHTM.
57. What concerns, if any, would you have If the water system were to have no C&V before handover in 2015? Why were you concerned?
- A.** At that time, my interests were in HV, LV electrical and Medical Gass as I was one of the AP for these three disciplines mentioned.
58. Describe the same in respect of verification and the cold-water supply system.
- A.** As above.
59. What C&V of the water system was carried out post-handover?
- A.** Don’t know.
- a) Who was responsible?
- A.** Don’t know.

b) How was the C&V recorded?

**A.** Don't know.

c) What concerns, if any, arose post-handover about C&V? If so, why did these concerns arise?

**A.** I don't remember any.

### **Water System – Testing and Maintenance**

60. What testing and maintenance protocols and regimes were in place? What should have been in place. If it wasn't, why wasn't it? What did you do about that?

**A.** What time scale, as I was only involved in any maintenance after June 2017.

a) Please explain the testing and maintenance protocols that were in place during the period after June 17 when you were involved in maintenance?

**A.** I was only involved in the water testing maintenance for critical areas, I did however act under instruction from IC (Infection Control) and Senior estates managers. For additional testing and other works relating to the water system

b) Please describe the protocols/instructions/guidance which you followed during your involvement in the water testing maintenance for critical areas.

**A.** I can't really elaborate more than the answer I gave; IC would be the best to answer this question about protocols/instruction/guidance as they will probably still be using the same methods today. As I mentioned if I was instructed to test area, ward or room within QEUH for specific water test I would have got DMA Canyon this work to carry out with full instruction on the type of lab test required. Due to the passing of time, I can't recall specific protocols/instruction/guidance given by IC for give time while I worked at QEUH.

61. Describe your involvement in the filling of the water system prior to handover? Did you have any concerns about this? How did this impact the bypass filter?
- A.** Wasn't involved.
62. What concerns, if any, did you have about the temperature and movement within the water system? How was this recorded and measured? Who was responsible for this? If Schnieder did these were these reports forwarded to yourself or other GGC employees? How were these reports responded to, what did they tell you? How were issues flagged in these reports dealt with/ resolved?
- A.** I wasn't aware of any concerns as far as I can remember about the water temperature and movement.
63. What concerns, if any, did you have about testing and stagnant water being in the system following testing? Please describe and provide information on how this was dealt with.
- A.** My involvement with sampling and testing of the critical water system was after June 2017, which was all carried out by DMA Canyon.
- a) Please describe your involvement in this process
- A.** I was the estates contact and sign off payment for these works to be carried out
64. What concerns, if any, did you have about dead ends/ legs in the system? Please describe and provide information on how this was dealt with.
- A.** Don't remember being involved in the removal of any dead legs at QEUH.
65. Refer to **Estates Communication Bundle, document 10**, explain the cleaning and maintenance of the water system, taps, drains, shower heads etc. When doing so consider:
- a) What is the cleaning regime?
- A.** I looked through **Bundle 12, Doc 10**, I wasn't involved with any maintenance or cleaning regime for the water system until June 2017, I thought the cleaning would be soft FM regime.

- b) What is the importance of this?  
A. It is always important to carryout maintenance and cleaning on every system, this ensure compliance and safety to patients and staff.
- c) What responsibilities did you have a result of this?  
A. As 64a, I wasn't involved as mentioned until June 2017.
- d) What did you do to ensure these responsibilities were executed?  
A. After June 2017 I used DMA Canyon for sampling and testing, early 2018 they were involved in thermally disinfecting taps, cleaning strainers and replacing straighteners and shower heads (shower head replaced every month) in W2A RHC.
- e) What issues, if any, did you have fulfilling these responsibilities?  
A. After June 2017, other than not being able to gain access to some rooms in W2A due to patients condition, none.
- f) What concerns if any were raised about cleaning practices? **IMT bundle, document 23.** Detail these concerns. Refer to **NHS GGC SBAR Bundle, page 112** when providing your answer.  
A. I looked at IMT Doc 23 I think I had left QEUH by this time, Don't know anything about SBAR Page 112.
- g) What, if any, matters regarding the maintenance of the water system were escalated? If so, were they escalated BICC or AICC?  
A. Any maintenance I carried out after June 2017 for around 8 months, was documented stored and actions were taken if any results were out of range.
- h) What is dosing, and why was chlorine dioxide used in the cleaning regime?  
**IMT bundle, document 30.**  
A. Dosing is cleaning part or whole of the system. However, I had left the QEUH by the time of this meeting.

66. What was found in the water tanks; what if anything significant was found in the water tanks? To what extent would anything found result in a wider issue of water contamination?
- A.** What date is this question referring to. I don't remember asking DMA Canyon to test the water tanks unless they were included in critical areas. However as I have said on various occasions if requested by Senior Estates Managers or IC to carry out additional sampling and testing, I would have got DMA Canyon to carry out these works
- a) When you were involved, if anything significant was found in the water tanks, what would be your role especially if it may result in a wider issue of water contamination? Please explain.
- A.** I don't recall anything being found in the water tanks, what date is this question referring to?
- b) **Please refer to Estates Team Bundle, document 91, page 754:** Look at column 78 – debris in AHU – was soon after handover (document referred to is dated

*“There was debris in the water tanks found following handover”*

From an Estates prospective, Can you provide a further detailed comment on the issue of debris in the water tanks? How you would respond to such an important issue and what is your opinion as to how debris in the water tanks could impact on the water system generally?

- A** I wasn't involved in any part of the water system at or soon after handover, sorry I can't answer this question any further. I don't really have an opinion on this matter as I don't have the full facts, I was busy with the electrical and medical gas (low hazard) systems at that time

67. 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'm not qualified to say.
  
  - b) Ensuite bathrooms attached to each room.  
**A.** I'm not qualified to say.
  
  - c) Overprovision of water outlets leading to sink removals  
**A.** I'm not qualified to say.
68. Describe the water flushing regime at handover, describe your involvement, the recording process, why is it important? What is the impact if it is not carried out?  
**A.** I wasn't involved in the water system so I can't say.
69. To what extent could the water system in QEUH/RHC have been more comprehensive?  
**A.** I'm not qualified to say
70. To what extent could the water system have achieved the system objectives if operated correctly? In your answer set out what the system objectives were and how these were/ could have been met.  
**A.** I'm not qualified to say.
71. Describe any ward/area specific water systems used?
- a) Detail the individual ward water specification
  - b) What were/ are your thoughts about this
  - c) Why, if applicable, did certain wards have different water systems
  - d) Was there a standard protocol for sanitising water systems?
  - e) If so, what was the standard protocol?

- A.** The only specific water system used was in the Dialysis units, which had their own separate filtration system. All the rest as far as I know were the same water system.
72. To what extent were the standard protocols for sanitising water systems followed on a system of the size and complexity of this one?
- A.** I can only say if I was instructed to organise any works (such as sanitising) by Senior estates managers and IC on the water system (after June 2017 for 8 months), I would get DMA Canyon in to carry out such works if required to do so. it would have all been documented and recorded.
73. Who, if anyone, was contacted to advise on sterilisation of the water systems?
- a) Who were they?
  - b) Had you worked with them before?
  - c) Describe and comment on the methodology used.
  - d) Who decided to accept it or not.
  - e) What was the outcome?
  - f) What paperwork or records were kept in relation to their installation; maintenance or flushing?
  - g) How were these kept on paper or electronically?
  - h) What equipment for recording work was used by employees doing day to day tasks?
  - i) How was that then reported back and checked?
- A.** I remember being instructed by Ian Powrie and IC to get RHC W2A water system sterilisation. As a result I got DMA Canyon to carry out sterilisation, they were already carrying out flushing and sampling within QEUH/RHC. At the time I was day shift manager (June 2017 for 8 months). The method they would have used would have been in the form of a risk assessment and method statement, which would have been given to Mr Powrie and IC to look over and make sure it met all compliance requirements. Only once the process was accepted by Mr Powrie, IC and ward/area manager would the work be carried out, I'm not sure of the outcome as the results and documentation were sent to Mr Powrie, IC and Ward/area manager.



74. Ian Powrie tells the Inquiry that there was an issue in around April 2015 when the water supply was lost to QEUH/RHC due to a failure on both water plants. Ian Powrie tells the Inquiry that resolve the issue water had to bypass the filtration plant and feed on of the tanks with mains water. He further tells us that you supervised the manual fill.
- a) What was the impact of bypassing the filtration plant in these circumstances?
- A.** If Mr Powrie said it happened then I have no doubt it did. However I have been asked this question before by the police enquiry, I couldn't remember this incident as at the time as we had a lot of issues such as people being trapped in lifts, blocked drains in the A&E, Auto doors breaking down, pneumatic pod system breaking with patients' blood samples not getting to or returned form the Lab and blood also contaminating the system due to pod lid not being sealed properly by user. Fire alarm going off regularly it was a busy place around that time.
- b) Is bypassing the filtration plant compliant with SHTM guidance?
- A.** As I said can't remember this incident, with regards SHTM I don't know.
- c) Was the system flushed and drained completely after it was filled with water which bypassed the filtration plant? If not, why not? What was the potential impact?
- A.** I don't know.
- d) Was this incident reported to HPS/HFS? If not, why not?
- A.** I'm sure if Mr Powrie was involved in this incident he would have reported it to the appropriate authorities, I don't recall attending any enquiry regarding this incident.
- e) What impact did this action have, if any, on the presence of debris being found in the water tanks?
- A.** As I said I don't remember, Mr Powrie would be the best person to ask.

## Taps

75. What is your recollection of the use of Horne taps?

**A.** From which time scale, as I only had dealing with the taps early 2018.

a) When you were dealing with taps in 2018, what is your recollection of the use of Horne Taps?

**A.** I left the QEUH by March or April 2018, as a result must have been before that. These were the taps that were fitted during the build, as a result must have been pass for installation. As I mentioned I was only dealing with water testing of critical areas, I was only dealing with the tap as instructed by Senior estates managers or IC staff.

b) At the time, how aware were you of the incidents in Northern Ireland concerning Horne Taps? What was your level of knowledge of the incidents in Northern Ireland and the decision to use Horne Taps in QEUH/ RHC?

**A.** The only incident I recall from NI was during Cupriavidus outbreak, when I asked Dr T Inkster for guidance on how to deal/treat this water issue. Her reply was to send me a document relating to a case in NI, which was one sheet of paper and not very helpful.

c) Flow straighteners – when did you become aware that they were non-compliant with SHTM 2027 and SHTM 04-01 guidance? To what extent were they non-compliant at handover? **IMT Bundle, document 27.**

**A.** As I have mentioned I wasn't involved in the water system at QEUH/RHC until June 2017 for 8 months, I had left the QEUH by the time of IMT Doc 27

d) How involved were you with testing in high risk areas?

**A.** What time scale is this question referring to, after June 2017 for 8 months I got DMA Canyon to carryout sampling and testing in critical areas within QEUH/RHC.

76. How involved were you in the decision to use point of use filters?
- A.** Senior managers and IC made the decision to use point of use filters, I ordered the end of line filters (for a short time, around 2 months) once instructed by senior managers Colin Purdon.
- a) Who was responsible for the effective management of and installation of the point of use filters?
- A.** Senior manager Colin Purdon.
- b) To what extent, if any, did the point of use filters meet the water regulation requirements? How effective was the gap between the water level and the filter to prevent contamination?
- A.** Don't know.
- c) Why were the point of use filters not introduced earlier? What are the possible consequences of not having point of use filters?
- A.** The decision was made by senior managers and IC.
- d) What are the consequences of not having point of use filters? Please explain
- A.** I'm not or was I ever in a position to comment, as I don't have the appropriate knowledge or training.
- e) How often were you aware of the filters being changed? Were the manufacturer's recommendations followed?
- A.** If I remember correctly, I was asked to order PAL filters as they could last longer, I think the manufacturer recommend change them every 3 months. However I think they were changed every month, I can't be sure as I was only involved for a short time before leaving the QEUH.

77. What was your involvement in the cleaning and maintenance of taps; what was the cleaning regime, how was it recorded, who was responsible; any issues or concerns, if any, you had around the cleaning of taps?
- A.** Early 2018 I organised DMA Canyon to clean the taps under instruction of senior estates managers and IC, once their RAMS were accepted by senior estates managers, IC, and ward/area manager these works commenced.
- a) Please explain what was involved in the cleaning regime, how it was recorded /checked. Did you have any concerns regarding the cleaning of taps?
- A.** RAMS will explain the work carried out (which were accepted before the works commenced), I didn't have any concerns with the process as the RAMS accepted by the parties named above.

### **Communication Regarding Cleaning and Maintenance – Water**

78. Have you ever been advised not to contact someone/ not to provide water testing information? If so, when? By whom? and why?
- A.** No never.
79. 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.** No never.
80. Describe how you dealt with requests for water testing results from microbiologists and infection control - what requested information did you provide? If not, why was paperwork not provided?
- A.** During my time as day shift estates manager (June 2017 for 8 months) , I provided all information I was asked by microbiologists and IC.

## **DMA Canyon Reports**

**Refer to Bundle 6 – Miscellaneous documents – documents 29 and 30.**

81. When did you first become aware of this report?

**A.** I remember when Colin Purdon received the water risk assessment draft. DMA would be best placed to answer that question. As it was above my allotted budget, Colin Purdon had to sign it off and retained by Senior managers with a copy being place in the water OP folder. DMA would not issue it to us until the water risk assessment was paid. Once the payment was received the final risk assessment was given to Colin Purdon. I'm not sure of the time it took from Colin Purdon receiving the draft copy till payment was received, DMA or Colin Purdon could answer that question.

a) Were you surprised that the 2015 report was not actioned when you came to work on the 2017 report?

**A.** In reference to the 2017 Report (Water Risk Assessment) draft, and as I have said, my involvement with the water system was water sampling and testing of critical areas within QEUH/RHC and any additional works on the water system as requested by IC and senior estates managers. This would have been the water AP's area of work, if there was no water AP on site it would be the water AE area of expertise.

82. Were you aware of the report being discussed prior to 2017? If so, by whom?

**A.** No I was not aware of this being discussed, until the meeting I had with Allan McRobbie in June or July 2017, as I was involved with Electrical, Medical Gas and breakdowns before this time.

83. Are you aware of an Action Plan being prepared of carried out in respect of the 2015 report?

**A.** No.

84. How often were DMA Canyon present at QEUH/RHC site between 2015 and 2018?
- A.** I can only speak about the time I dealt with them, from June 2017 for 8 months.
- a) During the 8 months of your involvement, how often did DMA Canyon visit the site?
- A.** They were on site regularly, as DMA Cayon regularly to carry out the water testing/sampling in critical areas, along with other works instructed by IC and senior managers.
- b) 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.** From June 2017 for the 8 months, we were really busy with flushing and sampling critical areas in the QEUH/RHC and the issue with Cupriavidus along with Medical Gas maintenance work to discuss anything else at that time. It would have been discussed at a senior management level.
85. 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 don't know, the recipients of that report in 2015 would be best placed to answer that.
86. What happened with DMA Canyon in 2017 – tell me as much detail as possible. Who dealt with matters, what was your role and when did you become involved? Who sanctioned the works in 2017 report?
- A.** DMA said the AP for water was untrained, DMA assumed I was the AP for water system however I only did as I was instructed. As a result I got DMA to carryout flushing, sampling within QEUH/RHC critical areas and later to thermally disinfect the taps in Ward 2A, straighteners and replace straighteners as instructed, They also changed the end of line filter and replaced the shower hoses and nozzles monthly in W2A. I'm also sure DMA

did clean the water tanks although I wasn't there at the time, as a result not sure which estates manager was involved in that.

87. What was the impact, if any, of the failure to implement the 2015 recommendations on patient safety?
- A. Sorry I can't answer that question as I wasn't AP for water for 2015.
88. We understand that Infection Control were only advised about the 2015 DMA Canyon Report in 2018. Why were they not told sooner? What happened?
- A. I wasn't involved in any maintenance before June 2017 for 8 months, as a result I can't answer that maybe Mr Powrie could answer that. My only question would be why did they leave it so long before asking for DMA Canyon Report from 2015
- a) Who was the 2017 Report delivered to?
- A. Senior Estates manager at the time, as far as I can remember it was Colin Purdon.
89. Whose responsibility was it to be satisfied that the risk assessment had been carried out? Explain how you were satisfied that the appropriate risk assessment had been carried out prior to patient migration to QEUH.
- A. It would be the responsibility of AP for water, AE for water should have intervened and insisted the appropriately trained person would be appointed.

### **February 2016 – Sinks – Ward 2A**

In early 2016 a PAG took place regarding the '*Contamination of aseptic pharmacy unit at RHC water supply with Cupriavidus pauculus*' a subsequent investigation linked the infection to sink within the Aseptic Pharmacy Unit:

90. Why did a PAG take place?
- A. I don't know as I had no involvement in the water system at this time within QEUH/RHC.

91. What was your involvement, if any, with this matter?  
**A.** None.
92. What action, if any, was taken?  
**A.** As I said I wasn't involved in the QEUH/RHC System, so I don't know.
93. What further issues, if any, arose in relation to sinks? If so please discuss, confirming your involvement and action taken in response to any issues.  
**A.** I wasn't aware of any other issue with sinks, as my remit at that time was electrical and medical gasses (low hazard) at that time

### **Water Incident 2018**

94. Walk through the concerns as they emerged in 2017 into 2018 in respect of the water issues. Initially focus on your recollection of events as they happened. In relation to the concerns:
- a) When did the concern arise?
  - b) Nature of concern?
  - c) Possible cause of concern?
  - d) Action taken in response to concern?
  - e) What actions were taken in response to concern?
  - f) How sufficient were these actions?
- A.** I take it the question is about the Cupriavidus issues, I was informed by IC to carryout sampling in I think it W2A/B. I can't remember the extent of the sampling initially; the concern was how this happened and to contain and irradiate this out break. Estates where guided by IC, all the taps in W2A where thermally disinfect and parts changed as required. Then the water system was sensitised which was all documented and recorded, by DMA Canyon they issued RAMS which were agreed by Senior estates manager, IC, and Ward area manager. The system was flushed out and tested only when a clear result was obtained did the water system go back online, I'm not sure of the results of this action as I left not long after. However, the results of these actions were given to senior NHS managers including IC.



95. The following IMTs have been highlighted to assist with this. If you are also able to respond to the questions raised in respect of the IMTs below when considering your recollection of events.

Refer to **IMT bundle, documents 13 to 21**: Cupriavidus bacteraemia in ward 2A at the end of January 2018

a) What do you recall of this incident/ issue?

**A.** I believe all parties involved worked really well together and worked to the best of their abilities.

b) When did it begin?

**A.** I received email from IC to sample some room in RHC W2A and send the sample to the lab, at that time Cupriavidus wasn't mentioned. I had to ask as the action plan had to be amended accordingly.

c) How did it come to light? Who first reported the incident?

**A.** It was only after the samples came back from the lab and to IC, I had asked for further instruction on how to treat this issue.

d) What was your involvement?

**A.** I acted on the IC instruction.

e) What was your involvement with fungal testing? Refer to **IMT bundle, document 15**:

**A.** I asked microbiology to sample for fungal test as instructed by IC, any test results I received I sent on to the relevant parties as normal.

f) Refer to **Estates Communication Bundle, document 121**; how does this link to the IMT? Was this as a result of what was being discussed? What happened following this email?

**A.** Sorry, I don't know, I wasn't included in these emails.

96. Refer to **Estates Communication Bundle, documents 125 and 133**; what was the relevance of these document to the water incident?
- A.** At this time I was no longer involved in any water systems tasks for Doc 125, I had left QEUH at the time of doc 133.
97. Describe any other issues or matters arising from the water incident:
- A.** I don't know of any.

### **Water Technical Group**

#### **Refer to Water Technical Group Bundle**

98. What was the purpose of the Water Technical Group? What was your involvement, if any, with the group? What actions were undertaken by yourself, if any, relating to the Water Technical Group?
- A.** I had no involvement or knew about this group. I might have left QEUH by then.

### **Board Water Group**

#### **Refer to Water Safety Group Bundle**

99. What was the purpose of the Water Safety Board Group? What was your involvement, if any, with the group? What actions were taken by yourself, if any, relating to the Water Safety Board Group?
- A.** Sorry I don't know as I wasn't involved in this group.

**Review of Issues Relating to Hospital Water Systems' Risk Assessment 26<sup>th</sup>**  
**September 2018**

**Refer to Estates Communication Bundle, document 134**

100. Who commissioned/ordered the report? What issues prompted the instruction of this report?
- A.** After a meeting with Allan McRobbie shortly after coming on to day shift estates manager and finding the last water risk assessment was carried out on 2015, a new risk assessment was required. As it was over my budget I informed Colin Purdon who instructed me to get DMA to carry out Water risk assessment.
101. What interviews, if any, were in connection with the report?
- A.** Allan McRobbie gave me the draft copy of water risk assessment, I then gave to Colin Purdon to read over and then pay for to get the main water risk assessment. I don't know if Colin Purdon had an interview in connection with this report.
102. What views, if any, did you express to the author of the report?
- A.** If I'm honest I didn't read the draft as it was only in draft form and I wasn't asked for my input from estates senior managers on the draft.

**Other Water Incidents**

103. What other specific events do you recall in relation to water? For example do you have any recollection of debris in the water tanks and the cleaning of water tanks, If so, please explain:
- a) What the issue was;
  - b) The impact on the hospital (include wards/areas) and its patients (if applicable)
  - c) Who was involved;
  - d) What was escalation process;

- e) Were any external organisations approached to support and advise;
  - f) Detail role and function of HPS and HFS, advise if they were involved and any reports prepared by them;
  - g) Detail advice given from external organisations; what was the advice, did you agree with it, how was any advice managed/ communicated with others in your team and your superiors?;
  - h) Was there opposing advice and by whom;
  - i) What remedial action was decided on and who made the decision;
  - j) How was the issue resolved? – consider any ongoing aftercare/support/monitoring;
  - k) Detail any ongoing concerns you had, or which you were made aware of;
  - l) Was there any documentation referenced during or created after the event? i.e. an SBAR/ minutes from a meeting – use the bundle provided to assist.
  - m) Did anyone sign off to say the work had been completed and issue resolved/area safe? If so, who?
- A.** As I have stated I wasn't involved with any PPMS until June 2017 for 8 months, however I do remember giving HPS and HFS access to documents under instruction of David Bratley (I think) was it to do with Cupriavidus.

104. What were the NHS procedures for raising concerns about water issues or water infections.

- a) How were these dealt with by you?
- A.** The action would be to fill in the water action plan and send it to IC and await instruction.
- b) How was it confirmed they had been dealt with?
- A.** IC would give Estates instruction to help deal with any issues.
- c) What water issues or water infections were you concerned about?
- A.** Every water issue is a concern and should be dealt with.

## **Ventilation – Guidance and Obligations**

105. What was your understanding at handover in January 2015 of water guidance and regulations specifically SHTM guidance?

a) What is the purpose of the guidance?

**A.** I wasn't involved in the ventilation at handover, however the SHTM is to ensure compliance and were reasonably practicable ensure safety and fit for purpose. The ventilation in critical areas are verified via testing by external contractors. All documentation will be placed in the ventilation folders, for ease of access for yearly audits by AE for ventilation.

b) What are the possible consequences of non-compliance with the guidance?

**A.** When I was involved with the ppms for AHU in June 2017, the AHU ppm regime was working by that time. I just carried it on I don't recall it got to the stage where the AHUs got into a non-compliance state, as the AHU tested that year didn't fail, I was never the AP for ventilation within the QEUH/RHC, as a result I had no in-depth knowledge of AP duties.

c) To what extent was the ventilation system in compliance with the guidance at handover/ when you started at QEUH/RHC?

**A.** I don't know.

d) How satisfied were you of the compliance?

**A.** I wasn't involved in ventilation at the handover.

e) What documentation did you see that satisfied you? Where was that documentation stored? How often were you able to access the stored documentation?

**A.** I wasn't involved in the ventilation at the handover, as a result I'm not in a position to say.

f) How was this matter escalated? If so, to whom? To what extent, if any, was the ventilation systems non-compliance discussed with any colleagues? What further action, if any, was taken to ensure that the ventilation system complied

with the guidance? Who was responsible to regulate compliance, if so, please explain your knowledge, understanding and role within that team:

- A.** I wasn't involved with the ventilation system at handover, as a result I can't say
106. Describe the role of Authorised Person for ventilation, who held the position, responsibilities, consequence of not having an Authorised Person. Did you ever hold this position? If so, when? If you held the role what qualifications did you have that assisted with this role?
- A.** My understanding of the AP role was to ensure compliance. However, I never held the role as the AP for ventilation within QEUH/RHC, as at the time I didn't have the appropriate training and was never assessed by the AE for ventilation or authorised by GGC NHS Board. My involvement after June 2017 for 8 months was to give out PPMS for AHU which was a check list (for months, 3 monthly, 6 monthly) with the maintenance the mechanical engineers had to carry out. The maintenance list came from SHTM-03, then the Critical AHU inspected annually by external contractors (H&V).
107. What is your general view of NHS GGC's compliance in respect of ventilation at QEUH/RHC:
- A.** As far as I was aware the SHTM 03 was complied with as reasonably practicable.

### **Ventilation - Commissioning and Validation**

108. Describe the commissioning and validation process in respect of the ventilation system in the QEUH/RHC.
- A.** Sorry wasn't involved with the ventilation commissioning.
- a) Who was this carried out by? What was your involvement, if any?
- A.** Don't know, I had no involvement.

b) Who signed off?

**A.** Don't know.

c) To what extent, if any, did infection control have input prior to sign off? **Refer to Estates Communication Bundle, document 22.** For reference in this email Christine Peter's states that Craig (Williams) has not seen anything in writing about the ventilation.

**A.** I don't know.

d) How aware were you of any concerns raised at any point about the ventilation system and its commissioning?

**A.** I wasn't aware of any concerns.

e) How does commissioning differ to validation?

**A.** Commissioning is carried out before any system is put into operation, whereas validation is when a system is approved. I wasn't involved in the ventilation system/commissioning at QEUH/RHC.

109. Have you seen the validation documentation for the ventilation system as at handover (Jan 2015)?

**A.** No.

a) If yes – who carried this out, who signed off, who authorised?

**A.** N/A

b) If no – should you not have sought this? Who is responsible for ensuring it is in place? Who should have chased this up?

**A.** No! as I wasn't involved with the ventilation system until June 2017 for 8 months, at that time my involvement was to arrange ppms for the AHUs that were already established

110. Where would the paperwork have been stored/ Who would have been responsible for it?
- A.** I don't know, I know there was a storeroom in the Lab BLK at QEUH where full binders were stored. Not sure if these documents were stored there.
111. If validation was not in place at handover, how did the hospital open? Who would have had the authority to allow the hospital to open without validation in place?
- A.** As I said I wasn't involved in the QEUH/RHC ventilation system, as a result I can't answer that question.
112. What concerns, if any, would you have if there were no C&V of the ventilation system?
- A.** Like any system they would be needed to ensure compliance and validation purposes.
113. Why would no C&V of the ventilation system give rise to these specific concerns?
- A.** If C&V for any system wasn't available how can you tell if the system was compliant, or how well it was operating

### **Verification – Ventilation System**

114. What is verification?
- A.** Verification in this context is to ensure a system is working as designed.
115. What is the purpose of verification?
- A.** To ensure compliance with manufacturers guidance.
116. How often should verification be carried out? Who was responsible for carrying out verification?
- A.** It would depend on the system being verified; critical AHU were tested annually by an external contractor (H&V).



117. Was the ventilation system verified or not prior to handover? If not, should this have been done? What are the consequences of the ventilation system not having been verified prior to handover? What obligations, if any, did you have to seek verification in respect of the ventilation system?

**A.** I can't answer that question as I wasn't involved in the ventilation system at the handover time.

118. Described the wards and areas of the hospital that required verification?

**A.** All wards and areas require some type of ventilation.

119. What issues or concerns, if any, did you have in respect of verification at QEUH/RHC?

**A.** I didn't have any.

120. What would the consequences of verification not being carried out have been?

**A.** For any system it would mean it could possibly be non-compliant.

121. If verification was not being carried out, who else in your team would have been aware? What action, if any, was taken?

**A.** I don't know, I can only speak for the time I involved in Critical AHU PMMS, they were carried out annually.

### **Testing – Ventilation**

122. What testing and maintenance protocols and regimes were in place?

**A.** The AHU were maintained and tested as per the system that was in place when I became day shift estates manager, the maintenance list for tasks to be carried out, which came from the SHTM 03.

123. What concerns, if any, did you have about the ventilation system at the point of patient migration to QEUH?

**A.** At that time, I wasn't in a position where I would be concerned, as I wasn't involved in the ventilation system.

124. What concerns, if any, did you have relating to the ventilation? What concerns, if any, did you have relating to the water temperature? What concerns, if any, did you have relating to the movement within the water system? **Refer to Estates Bundle, document 123.**

**A.** I think I had left QEUH by this time.

125. How achievable was it to incorporate a comprehensive ventilation system into the QEUH/RHC?

**A.** I don't know.

126. Describe any ward/area specific ventilation systems used?

**A.** As far as I was aware high risk, critical care rooms and operating theatres had their own AHU, other areas (noncritical) had AHU that supplied multiple rooms.

127. What comments, if any, do you wish to make about the ventilation systems that were used?

**A.** I don't have any comments to make.

128. Explain your involvement, if any, with a review of specialised ventilation areas.

**A.** I don't remember having any involvement in the review regarding specialised ventilation areas.

### **Specific Events in Relation to Ventilation System**

129. Can you recall any specific events in relation to ventilation? For example: In 2015 prior to patient migration there were checks to the ventilation in Ward 2A in particular, with there being issues in relation to breaches around the trunking, ceiling lights etc with the extract grills not being compliant with SHPN.

**A.** I wasn't aware of any issues with the ventilation system as I wasn't involved in it.

- a) What was the effect of that non-compliance? What was done to remedy the breaches?
- A.** I don't know I wasn't involved.
- b) Lack of HEPA filters and general concerns ward 2A/B, **refer to Estates Bundle, documents 35 and 37**. Detail how the issues managed, what was your responsibility, outcome. Highlight any concerns you had with regards to work/ testing being carried out.
- A.** I can't answer this question as I wasn't involved in the ventilation system at this time.
- c) Dr Brenda Gibson raises their concerns, **refer to Estates Communication Bundle, documents 17 & 18**. Describe your involvement and any actions taken in respect of this matter.
- A.** I don't remember having any involvement in this.
- d) Air permeability tests not carried out, **refer to Estates Communication Bundle, document 47 Capita NEC3 Supervisor's Report (No 53) - dated September 2015**.
- A.** I wouldn't know anything about this, as I wasn't involved in any ventilation until June 2017.
- e) Issues with rooms 18 & 19 Ward 2A **Estates Communication Bundle, documents 46, 67 and 68**.
- A.** I have read the relevant Docs 46, 47 and 68, not sure of my involvement with these issues.
- f) **Refer to Estates Communications Bundle, documents 53 and 54**, describe the issues which lead to the smoke testing being required – what was the purpose? Why was this necessary/ what were the issues which lead to this? Page 419 – did you meet with Jackie Barmanroy – what was the purpose of this meeting. What was the actions taken in response – describe the working relationship between you and infection control colleagues with this matter – where was the work required recorded?

- A.** I don't remember meeting with Jackie Barmanroy relating to this matter, I read the email on page 419 Bundle 12. Why would I be in attendance when the email was asking for either David Bratley or Colin Purdon.
- g) In February 2016 Ian Powrie prepared a report regarding the action plan for proposed increase of extract in the ensuite rooms in the Schiehallion ward, **refer to Estates Communication Bundle, document 93:**
- i) Explain your knowledge of the issues
- A.** I don't have any knowledge.
- ii) Detail the issues
- A.** I don't remember being involved in this.
- iii) Potential patient impact
- A.** I don't know.
- iv) What was done to resolve matters and the extent of your involvement?
- A.** Not sure why I'm being asked this question as I had no involvement, the people in the emails are more qualified than myself to answer this.
- h) Issues in respect of the safety of the PPVL rooms and adequacy for isolating infectious or immunosuppressed patients:
- A.** Sorry I have no knowledge of this
- i) Issues detailed in **Estates Communication Bundle documents 94, 95 and 96.**
- A.** This email was at a higher level than my position.
- j) Issues detailed in **Estates Communication Bundle, document 104.**
- A.** Sorry I have no knowledge of this

- k) Fungal growths in a number of rooms in ward 2A.
- A.** All sampling test result were logged and copies sent to the person requesting these tests to be carried out, when I got DMA Canyon to carry out sampling from June 2017 for 8 months.
- l) Any other issues/ incidents not mentioned above.
- A.** Not that I can think of.

In providing your answer 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) Which external organisations, if any, were approached to support and advise?
- f) What was the advice?
- g) Was there opposing advice and by whom?
- h) What remedial action was decided on and who made the decision?
- i) How was the issue resolved – consider any ongoing aftercare/support/monitoring?
- j) Any ongoing concerns witness had herself or others advised her of?
- k) What documentation referenced during or created after the event was there. For example, an incident report?
- l) Who, if anyone, signed off to confirm the work had been completed and issue resolved/area safe?

Write your answers in the relevant answer boxes above.

- 130. What level of awareness should an Estates Manager and Authorised Person for ventilation have of the ventilation issues?
- A.** The estates managers role is to manage a process of different tasks, along with carrying out different requests from various departments they are not necessarily APs for a specific discipline, whereas APs has more awareness

with whatever their AP duties are. However they will work closely together, to achieve their objectives.

#### **Ward 4B**

131. What was the intended purpose of Ward 4B?

**A.** I wasn't part of the design team, as a result I don't know. All I know it was the same as the rest of the wards in QEUH.

132. How did this change, if at all, prior to January 2015? If so, what changes were made?

**A.** I don't know.

133. What, if any, changes were required to the ventilation system? Why were they made?

**A.** I don't know as I wasn't part of the design team.

134. How involved were you with the changes?

**A.** I wasn't involved as far as I can recall.

135. There were issues with Ward 4B though almost straight away with an SBAR being prepared on around 7<sup>th</sup> June 2015:

a) Discuss the concerns about Ward 4B. **Refer Estate Communication Bundle, document 30** - What was the purpose of the SBAR? **Refer to Estates Communications Bundle documents 30, 31, 32** to assist with your answer.

**A.** Wasn't involved.

136. In her statement Dr Teresa Inkster discusses concerns regarding Ward 4B:

a) What commissioning and validation data did you have in June and July 2015?

**A.** I didn't have any data, I wasn't involved in the ventilation system in 2015.

b) What commissioning and validation data, if any, did you provide to Dr Teresa Inkster?

A. None.

c) What commissioning and validation data, if any, did you provide to Dr Teresa Inkster?

A. This is the same question as above.

137. How long after migration to ward 4B were patients decanted back to the Beatson?

A. Not sure of the exact date, as I wasn't involved in this project.

138. To what extent were issues raised in the SBAR from June 2015 present at the point of NHS GGC taking occupation in January 2015, and when Ward 4B was handed over to NHSGCC?

A. This is for the design team to answer.

139. How could these issues arise immediately between handover and patient migration when the Ward was signed off and handover accepted?

A. This is a question for the personal who signed off/accepted the ward

140. **Refer to Estates Communication Bundle document 62:**

a) What is this document?

A. Ventilation Report for AHU 63, supplies/Extract for QEUH W4B.

b) Have you seen it before? If so, when?

A. No.

c) What was the purpose of carrying out a ventilation report in October 2015?

A. I don't know.

d) What issues, if any, arose from this report?

A. I wasn't involved, sorry.

e) How involved were you?

A. I wasn't.

f) What matters, if any, did you escalate arising from this report? If so, to whom and why?

A. None

141. In respect of Ward 4B describe the works carried out, why, your involvement and when. Use the below to assist and detail issues you were aware of in respect of Ward 4B, your involvement and any remedial works – works done and why.

A. I wasn't involved in these works.

Refer to the following when answering, if relevant to your involvement:

a) **Estates Communication Bundle, document 71**

b) **Estates Communication Bundle, document 72**

c) **Estates Communication Bundle, document 97**

d) **Estates Communication Bundle, document 115** - why was there 'pre-start' meeting – what was the issue with this?

142. Involvement and knowledge to HAI-SCRIBE – What was this and what was the issue? – **refer Estates Communication Bundle, documents 117 and 118 and 119.**

A. I have read the emails on page 895 Bundle 12, I was tasked by David Bratney to provide a HAI-SCRIBE for access above the ceiling tiles to check heating actuators, to 4 additional non patient related rooms. However, this HAI-SCRIBE wasn't signed off due ongoing work issues with existing HAI-SCRIBES.

143. Please provide detailed responses to points a) – e) below

a) You were tasked with carrying out works in respect of ceiling tiles

b) Describe situation

c) Action taken

d) Whether this issue was resolved



e) Was this linked to the overall works being carried out in 4B – was there patients in at the time, what happened in response to the HAI-SCRIBE.

**A.** [a-d) I was tasked to provide a HAI Scribe for the remove of the tile to check a heating actuators.

e) I wasn't privy to the extent of the works being carried out in W4B as a result I don't know if it was linked to the overall works being carried out]

144. Ward 4B:

a) When were Ward 4B patients decanted from Ward 4B back to the Beatson?

**A.** I don't know.

b) Why did this happen?

**A.** I don't know.

c) When patients initially transferred from the Beatson to Ward 4B was the specification of Ward 4B the same spec as the Beatson?

**A.** I have never been to the Beatson so I can't comment.

d) If not, then why were patients transferred from the Beatson initially if the specification?

**A.** I don't know.

e) What works were carried out to Ward 4B during this time? Why, Was it an issue when the ward initially started taking patients? who signed off on the works? how did it become known that the works were required.

**A.** This is a design question.

### **Decision to Close Wards 2A/B and Move to 6A and 4B**

145. What issues, if any, were there leading up to the decant of patients from Ward 2A in 2018, such as the use of bottled water.

**A.** I had left the QEUH by this time.

- a) What was your involvement, if any, in the decant of patients from Ward 2A?  
**A.** I had left QEUH by this time.
- b) What risk assessment and additional measures were put in place to ensure patient safety, both prior to and during the move?  
**A.** I had left QEUH by this time.

### **Reports Prepared by Innovated Design Solutions October 2018**

146. **Refer to Bundle 6 – Miscellaneous Documents – Documents 33 and 34.**  
These documents are feasibility studies regarding increasing ventilation air change rates within Wards 2A and 2B by Innovated Design Solutions.
- a) Who, if anyone, contacted you in connection with these reports?  
**A.** No one.
- b) What was your involvement, if any?  
**A.** I had left the QEUH by then.

### **Cryptococcus**

147. Recall your understanding of the Cryptococcus infections in 2018:
- a) What is Cryptococcus?  
**A.** I wasn't aware of any Cryptococcus in 2018, before I left the QEUH.
- b) What pigeon issues, if any, were there at QEUH/RHC? If you recall any such issues, what action did you take, or what action was taken? Did the action taken resolve the issue(s)?  
**A.** The fact there was a waste plant beside the QEUH/RHC, pigeon and seagulls were and are still flying around the site. There were some pigeons on the building top, if there were any issue GP Environment were called to deal with the situation.

- c) What issues, if any, were you aware of relating to Cryptococcus at QEUH?  
When did you first become aware of these issues? What happened in response to these issues? Who, if anyone, did you report these issues to?
- A.** I have never been aware of Cryptococcus at the QEUH.
- d) Describe any visits you made to the plant rooms? When did you go, why did you go at that time, what did you see? What cleaning, if any, took place before the visit – if so why – what was evidence prior to the cleaning?
- A.** During my shift I regularly visited the plant room, to make sure everything was working as it should. Time and dates vary, However the plant rooms were always clean and tidy
- e) Are you absolutely sure that the plant rooms were always clean and tidy?- It is suggested by others that there was evidence of pigeon droppings and at one point a dead pigeon was found.
- A.** I don't recall seeing a dead pigeon, I wasn't in the plant rooms all the time I can only state what I seen and can remember.
- f) Do you recall seeing photos relating to pigeons at QEUH/RHC, if so, what did they show?
- A.** No I don't recall see any pictures of pigeons, you only had to walk outside to the car park and you could see them and also smell the foul smell from the waste plant nearby.

### **Staffing and Working Environment**

148. 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? What concerns, if any, did you have regarding staffing levels/ workload in estates?
- A.** Most of the staff came from the Victoria Inf, Western Inf, RHC Yorkhill Hosp and staff from the old Southern General, I don't know how the staffing levels were calculated. If we needed additional tradesperson, we could call in contractors.

149. What training was in place for new and existing staff on using new systems and working within the QEUH? What steps were taken to ensure that new and current staff were trained to the required standard? **Refer to Estates Communication Bundle, document 5** - what was this and what was the training like? How did this assist you and staff with working at QEUH? – was it equipment focus, asset focused please describe.
- A.** As the NHS staff all came from a hospital environment and all had relevant experience within their own trades, the equipment they were working on was not new to them the only concern was the new technology that was being used to control the equipment. There was equipment familiarisation training given to the staff prior to handover, the idea was for them to show the other estates staff when they arrive on site (it was called Trainer trainer).
150. 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 was on shift day shift and night shift as Duty estates manager, our concerns where the same as everyone who works in the NHS with regards to workload.
151. Who was on site to manage and assist with carrying out works relating to equipment? How did this assist your workload in estates? To what extent, if any, was there a reliance on commercial third parties such as Multiplex when it came to staffing levels?
- A.** It was a mixture of workload between estates staff, specialist contractor and warranty work engineers.
152. What concerns, if any, were raised by infection control colleagues regarding the general build of QEUH/RHC taken seriously? What action, if any, did you take in response to these concerns, not already mentioned in your answers?
- A.** As duty/day shift estates manager I believe I worked quite closely with IC, as far as I was concerned, I would take any concerns they had seriously and take the appropriate action as and when asked

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

A. I have nothing else to add.

### **Declaration**

154. 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.

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

### **Appendix A**

A43255563 – Bundle 1 – Incident Management Team Meeting Minutes (IMT Minutes)

A43299519 – Bundle 4 – NHS Greater Glasgow and Clyde: SBAR Documentation

A43293438 – Bundle 6 – Miscellaneous Documents

A43955371 – Bundle 8 – Supplementary documents for the oral hearing commencing on 12 June

A47175206 – Bundle 9 – QEUH Cryptococcus Sub-Group Minutes

A47395429 – Bundle 10 – Water Technical Group/Water Review Group Minutes

A47238573 – Bundle 11 – Water SAFETY Group

A47069198 – Bundle 12 – Estates Communications