Scottish Hospitals Inquiry
Witness Statement of
Mary Anne Kane

This statement was produced by the process of a question and answer recorded interview with the witness. The questions and answers are produced within the statement.

Personal Details

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

A. Mary Anne Kane, BSC Dietetics, Post Graduate Hotel, Accommodation and Catering Management Professional Background – Soft Facilities Management.

I held various Catering Manager posts within NHS Greater Glasgow and Clyde between 1989-1996 (Ruchhill, Knightswood, Southern General Hospital). Between 1996-2009 I was the Hotel Services Manager at Southern General Hospital and South Glasgow Trust locations responsible for the operational delivery of Hotel Services including catering, domestic, portering, waste, fire and transport.

2009-2012 General Manager Estates & Facilities North Glasgow Hospitals responsible for the operational and strategic delivery of estates and facilities services within the Division.

2012-2014 – Seconded to a General Manager Corporate Services role developing and implementing the Boards Catering Strategy including the delivery of two Catering Central Production Units upgrades to support this, Fire Policy and supporting fire safety strategies, staff governance matters, development and implementation of the Board Laundry Strategy and modernisation and efficiency programs as directed by the Director of Estates & Facilities.

2014-2015 Interim Director of Estates & Facilities NHS GGC – Responsible for the operational delivery of estates and facilities within NHS GGC whilst the new SGH campus was being developed, designed and commissioned. To coordinate the transfer of staff from multiple locations to the QEUH campus. Development of the Soft FM operational processes and systems applicable to QEUH/RHC standardising existing processes (2013-2015). Associate Director of Property, Procurement & Facilities NHS GGC – To provide leadership and management of Estates & Facilities within NHS GGC reporting to the Director of Property, Procurement and Facilities (2015-2018). Responsible for operational estates management, Soft FM (including waste, fire, security, domestic, portering, laundry, decontamination, PFI management.

Jan 2018-1st November 2018 Interim Director of Estates & Facilities NHS GGC – Responsible for the operational delivery of estates and facilities within NHS GGC.

November 2018-31st May 2021 Assistant Director of Facilities Corporate & Central Production Units GGC – Responsible for quality & performance within Facilities, Decontamination Services, Central Cook Freeze Production Units, Prison Services with NHS GGC, Procurement Services and Clyde Sector

Professional Background

2. Professional role(s) within the NHS.

A. I was the lead soft facilities manager for NHS GGC participating in national advisory groups and national working groups for many years in various roles.

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

A. I did not have responsibility for QEUH/RHC as single property within NHS GGC. I was employed for all of the properties within NHS GGC as a general manager/associate director with a management structure within each geographical area who were responsible for the day to day operational delivery of services via the General Managers employed in each geographical sector. Professional leads for Hard and Soft FM supported the geographical General

Managers in delivering the range of disciplines within each area (Sector and Site Maintenance Managers and Site Manager Soft Facilities Manager). A General Manager and Deputy General Manager for Estates was a also added to the structure from 2016 for Hard FM strategic, compliance and professional leadership of hard FM.

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

A. I did not directly work in the hospital. I supported service delivery as required for each hospital in NHS GGC not just QEUH/RHC.

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

A. My role in relation to QEUH/RHC was within my wider remits as Interim Director and Associate Director. This involved liaising directly with the General Manager with overall responsibility for Hard and Soft Facilities Management and their direct reports as required

6. Are there differences between hard and soft facilities in a hospital?

A. The disciplines within Hard and Soft FM vary. Soft FM provide front facing patient related tasks such as catering, cleaning, laundry, sterile services etc. Soft FM is patient and customer facing due to the nature of the services that are delivered. There is a higher degree of patient and clinical team interaction due to the direct feedback received on a daily basis on Soft FM service delivery. Hard FM tends to be more back of the house due to the infrastructure and maintenance work completed by estates not being visible on many occasions, as a result of plant rooms and assets not being patient facing, Estates staff are less exposed to direct patient contact and clinical team interactions as a consequence. There is a higher level of technical statutory legislation applicable to estates on a range of specific subjects e.g. Ventilation, Water, Pressure Systems, electrical systems etc.

The delivery of both Hard and Soft FM services within NHS GGC was divided into 5 geographic areas which were reduced to 4 areas over time. A General Manager was employed in a discrete geographic area with line management

responsibilities for Hard and Soft FM. Each Sector's Hard and Soft FM service had a Lead Technical Manager[s] responsible for operational delivery and compliance with national standards, who advised the Sector General Manager on all technical issues. Within Hard and Soft FM, the Sector Technical Leads also led on Board wide statutory and mandatory topics to ensure a consistency of approach and Policy application across the Board. In Hard FM Sector Technical Leads led board wide on Water(Alan Gallacher), Ventilation(Ian Powrie), High voltage/low voltage(Peter Collins) etc until the appointment of the General Manager Estates(Alan Gallacher) and Deputy General Manager Estates(Ian Powrie) after this time they led on professional technical issues and compliance Board wide .Alan Gallacher was responsible for the Compliance Team In Soft FM, there was a Technical Lead for Catering, Domestic and Laundry.

(a) If so, describe these differences.

A. Please refer above

(b) If applicable, explain how hard and soft facilities operate differently?

A. Technical qualifications and experience for each service are different. Both services have separate governance structures for technical issues. The management structure internally for both services was specific to each discipline, coming under the leadership and remit of the General Manager for each geographic area in both cases

(c) If applicable, explain how hard and soft facilities are managed differently?

A. In many respects both services are managed the same in that national and corporate policies such as HR, Infection Control, Financial Management etc. are the same. Different assurance groups operate in both disciplines e.g. Estates SMT, Estates Statutory Compliance Group, Water Safety etc.

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

A. I reported to Mr Alex McIntyre, Director of Estates & Facilities between 1991 and 2014, in various posts which matched my skill set at the time appointed. Between 2014 and 2015, I reported to Mr Robert Calderwood, Chief Executive as the Interim Director of Facilities whilst the new SGH was being constructed and commissioned. From January 2015 until December 2017, I reported to Mr David Loudon, Director of Property Procurement and Facilities. From January 2018 until 1st November 2018, I reported to Mrs Jane Grant, Chief Executive. From 1st November 2018 until 31st May 2021, I reported to Mr Tom Steele, Director of Estates & Facilities.

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

A. For all posts I held within NHS GGC up until approximately 2009/2010, I applied for posts seen advertised and was selected via competitive interview. In 2009/2010, NHS GGC underwent major organisational change when Trusts were disbanded and a single Health Board for the area was being created. As part of this process I was selected, along with many Managers, to undertake an assessment centre selection process. At this time, I was selected and appointed to the role of General Manager, Estates & Facilities, North Glasgow.

At the same time another three General Managers were selected for Estates & Facilities to cover the geographic areas of West Glasgow, South Glasgow and Partnerships. When Clyde joined NHS GGC this increased to five geographical sectors. In approximately 2012, I was asked by the Director of Estates & Facilities to lead on Corporate Facilities issues aligned to my skill set in Soft FM such as the Catering Strategy, application of standardisation in Domestic Services, Fire Safety arrangements, identification of new technologies which would support the transition to the new hospital, financial planning and staff partnership working. These tasks were in preparation for the changes required to support the migration in future to the new SGH site. At this time the

geographic responsibilities for the other General Managers in Estates & Facilities were aligned to four geographical areas: North, South Clyde and Partnerships. Reporting arrangements to the Director of Estates & Facilities were unchanged by this arrangement.

When I was appointed as Interim Director of Estates & Facilities in 2014 all of the General Managers within Estates & Facilities were asked if they wished to be considered for this role. I was interviewed for this role by Mr McIntyre and Mr Calderwood. This role was interim until the new SGH opened and the Project Director of the new SGH (David Loudon) came into his role as Estates & Facilities Director Designate at handover. When the Director Designate (David Loudon) came into post a revised job description was created for the post of Associate Director of Estates & Facilities to reflect the range of tasks I had been undertaking and would continue to provide. When Mr Loudon announced he was leaving I was approached by the Chief Executive, Mrs Jane Grant, and asked as Mr Loudon's Deputy if I would step into the interim role until a Director of Estates & Facilities was substantively employed for the role, which would be a period of approximately 6 months.

9. Had you worked with any of your QEUH/RHC estates and management 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. I historically had worked with Mr Hunter, General Manager, Ms Karen Connelly, General Manager and Mr Alistair McLean, General Manager on a range of Soft FM projects over the years. Whilst based in North Glasgow from 2009/2010-2012 I had worked with Mr Ian Powrie, Head of Maintenance as his line manager within the geographic sector arrangements. In approximately 2013, I started working with Mr Alan Gallacher, the Board's Professional Lead for Water Safety on developing a Board wide approach to Water Safety as, historically, each individual Sector had its own arrangements in place which were based on the previous Trust configurations. Alan Gallacher was the Board wide

professional Lead at that time for Water This occurred after the retirement of Mr McIntyre when I took on the role of Interim Director of Facilities

a) What at the time did the role of Professional Lead of Water Safety encompass?

A. The Professional Lead for Water coordinated the Board compliance on Water Safety They were responsible for achieving professional consensus on developing standardised processes, practices and documents to support the delivery of a statutory and mandatory compliant systems of water safety management across the Board. They coordinated the Responsible Persons and professional development of all staff at all grades to standardise approaches to delivery of safe systems. This included development of Water Policy, Water Written Schemes and Standard Operating Procedures related to water. This was a professional leadership role that was Board wide. The role of having a professional lead was to ensure the Board on each statutory topic had professional consensus on how to standardise procedures and arrangements that ensured statutory and mandatory compliance

Specific role(s) at QEUH/ RHC

10. 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. My role was a Board wide role covering all of the properties and sites within NHSGGC. The Sector General Manager of South Glasgow (Billy Hunter) reported to me on the delivery of operational services for Hard and Soft FM along with the other 3 Sector General Managers with geographic areas of responsibility. My day to day responsibilities in relation to the QEUH/RHC and the other geographic sectors were based on the interactions I had with them and any matters which were escalated to me in relation to service or statutory delivery of services. My role was very much the coordination of internal assurance groups and governance groups which allowed all sectors the

opportunity to escalate areas of concern, report on performance at local level and to drive change and efficiency within Estates & Facilities. These focused on performance, finance, HR, health & safety.

11. When did you start your current role? At this time, how many people worked within hard facilities management at QEUH? At this time, how many people worked within soft facilities management at QEUH? Did the number of people working change during your time at QEUH? If so, how did they change in soft facilities management? If so, how did they change in hard facilities management?

A. My role of Associate Director of Estates & Facilities formally commenced in about July 2015 I think. I do not have access to how many staff transferred at the time and I do not recall the detail of this.

The number of Soft FM staff certainly changed over time at QEUH/RHC for instance additional temporary staff were recruited at various points to support the migration of patients, completion of key tasks when there were operational failures such as Pneumatic Tube System failure, Automated Guided Vehicle failure, supporting patients to get from the car parks to the hospital and to improve on cleaning performance.

Over the period at some points, savings were offered for domestic services in some areas of the hospital which were low risk as part of the Board's Financial Performance Improvement Program after the post concerned had been critically reviewed by the local operational team. Savings had been identified for Soft FM provision as part of the FBC for the hospital due to economies of scale being based on a single site, some of these monies were diverted to improve and enhance the patient experience such as the creation of a discharge cleaning team who also took over some nurse related activities to release time to care in the single room configuration. In relation to Hard FM, the number of staff who transferred from the demitting hospitals was never increased whilst I was involved. Savings had been identified as part of the FBC for Estates at a value of £1m from existing budgets; inflationary uplifts were not applied to the FBC costings and some fundamental tasks had been omitted

from the FBC costings which were described in the submission. This meant that from the point of handover the Estates structure was not fully staffed to meet the needs of the site. A number of staff left post when the demitting sites transferred to the new hospital which made the situation very challenging on a day to day basis, particularly with so many defects and issues being identified with the building and operational delivery of services. When I returned from sick leave in August 2017, I was advised by Mr Hunter, Mr Powrie and Mr Gallacher that Mr Loudon had agreed to a reduction in the estates establishment as part of the Boards Financial Improvement Plan while I had been on sick leave which they had not agreed with due to the pressure that the site was still encountering, due to a number of ongoing defects and problems on site. I do not recall how many staff this related to or if other areas of the Board were impacted. This was discussed when I returned from sick leave with Mr Loudon who advised that Mr Gallacher had written to him expressing professional concerns about service delivery at this time, which he in turn had escalated to the Chief Executive. However, the Boards Financial Improvement Plan for the year had to be achieved in all areas

a) What were the fundamental task omitted from budget?

A. Management structures to support statutory compliance (such as number of APs), HAI related issues management (these are usually addressed on an ad hoc basis as they occur so require resource flexibility but on a site the size of QEUH this would require a dedicated resource), backlog maintenance requirements ,extraordinary breakdowns and ad hoc operational requests for project work resulting from infrastructure issues

12. How did hard and soft facilities management operate on a daily basis? How were the operations managed? Was responsibility shared between different teams? If so, to what extent was responsibility shared?

A. The management structure was the same in all of the geographical sectors of the Board for Estates & Facilities. For example, the General Manager for the Sector (Billy Hunter) had responsibility for the day to day operational delivery of both services. Below the General Manager was a Hard FM Technical Lead (Head of Maintenance) (Ian Powrie/Andy Wilson) and a Soft FM Technical Lead (Site Facilities Manager) (David MacDonald). On a daily basis, teams met discretely in their own specialities to discuss the day to day issues in the hospital and dynamically risk assess what activities would and could be undertaken that day on the basis of risk. Sometimes the General Manager would participate and be directly involved in decision making but more commonly the Technical Lead in each service led this operational work escalating to the General Manager as required. Most work was undertaken in discrete teams due to the different specialities but there was overlap and support provided to each other on some matters e.g. cleaning up after floods/repair work clean ups etc.

13. Refer to the Estates Team Bundle, Bundle 12, Document 29, Page 233 - Organograms showing the organisational structures within QUEH.

a) Does the organogram match the organisational structures of QEUH?

A. Yes, in 2015 this reflects the structure. In 2016 the role of General Manager Estates and Deputy General Manager Estates were created and appointed to coordinate specifically the standardisation of approach Board wide to Hard FM technical issues and compliance matters focused on statutory and mandatory guidance.

b) If not, why not?

A. N/A

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

A. The structure and hierarchy was the same across the different sectors.

14. Between 2014 and 2021 your role varied between Interim and Associate Director. Describe the difference between Interim and Associate Director roles.

a) What was the function and duties of each role?

A. The function as Interim Director was that of a caretaker to maintain functioning, operational services until the permanent appointee came into post. This involved participation in a number of Board assurance/governance groups, preparation and presentation of data in various forums, maintain momentum of change in terms of systems, processes and procedures by linking in directly with the General Managers for each Sector as well as via various Estates Management Forums. As Associate Director, I was not involved in Board Assurance groups or the preparation of Board papers although I did input to these and provide data when requested to by the Director. I led, developed and implemented operational delivery of a range of services across the Boards portfolio of properties. I also developed the structure of internal governance meetings within Estates & Facilities to ensure that there were a number of forums which supported the General Management structures within the Board such as Estates Senior Management Team, Statutory Compliance and Risk Tool Group, Partnership Group, Operational Management Group, Senior Managers Group etc.

b) Who did you report to in each role? Detail superiors for each role.

A. Associate Director – Mr David Loudon, Director of Property, Procurement and Facilities.

Interim Director 2014 - Mr Robert Calderwood, Chief Executive. Interim Director 2018 - Mrs Jane Grant, Chief Executive. Assistant Director Facilities - 2018-2021 Mr Tome Steele, Director of Estates and Facilities

c) Describe your relationship with your supervisor in each role.

A. I was extremely clear in my role and responsibilities in 2014 as Interim Director; I had agreed pieces of work and clarity that my role did not extend into the Project Team or technical advice on subjects I was not qualified to advise on. I did not take on the full role of Director at this time(Procurement and Capital Projects were covered by others in the organisation) I met regularly formally and informally with Mr Calderwood and felt informed enough on what was occurring organisationally to fulfil what was expected of me on a day to day basis. My relationship with Mr Loudon was very informal, we rarely formally met and communicated by 1-1 catch ups which were fairly irregular. I felt Mr Loudon was less interested in the delivery of operational matters by the Estates and Facilities teams than other areas of his role. There was little direction and limited discussion on the other areas of the Board. In 2018, I met with Mrs Grant fairly regularly and was supported by Mr Best as the Chief Operating Officer in the absence of the Chief Executive. Most meetings were on a 1-1 basis.

d) The Inquiry understands that you were not part of the Project Team but understands that you would need to communicate with them. Describe your communications with the Project Team. How would you describe your working relationship with them? Was David Loudon involved? If so, how so?

I had a lot of contact with the project team in respect of soft fm related matters – this included being part of working groups with clinical and ward teams to develop routines within wards and understand demarcation lines between clinical and soft fm staff. I did not routinely attend project team meetings or receive briefings on issues. Karen Connolly was very proactive on the soft fm and commissioning agenda and myself and the soft fm team met regularly with her so received updates and information on project progress mainly from this route. I worked with the IPCT lead Jackie Balmanroy and the Lead Nurse Fiona McCluskey on the Project as required to take forward individual pieces of work linked to soft fm matters. Sometimes David Loudon was part of these meetings but not very often. Information on commissioning and what was required to be

progressed came via this route in terms of opening timelines, building access, building layout etc. I didn't have any direct involvement on Hard FM and most updates I received regarding this came informally from Mr Powrie.The working relationship with these staff was good.

e) How were the meetings, both formal and informal, between you and Mr Calderwood recorded? Please expand on what was discussed during these meetings and confirm how regular they were.

I met with Mr Calderwood if required depending on if there were operational matters which needed to be brought to my attention raised by other teams. On average I would say I met with Mr Calderwood informally every three weeks/month. The type of things I recall being discussed were the formation of various working groups to develop revised service models at which Estates and Facilities would need to participate (Gartnavel General Front Door redesign, Yorkhill Hospital future decision making on use, Glasgow Royal Infirmary Orthopaedic redesign).Future National work discussed at Chief Executive Meetings to obtain background or discuss direct impact on the Board .If through attending any other meeting he had picked up any concerns about soft fm or maintenance issues at local level .

I attended formal meetings on the frequency they were programmed eg Performance Review Meetings were quarterly which covered performance against targets set by the Board for each service or via formal reporting systems such as domestic services, sustainability targets, switchboard quality performance, Finance Meetings were bi monthly which all financial issues were discussed , Capital Investment Group Board meetings were quarterly to discuss ,set and monitor performance against the capital program, Staff Governance was quarterly which reviewed performance against national staff governance standards, Health & Safety Forum met quarterly where specifically Fire, Water, Asbestos & Security were discussed as topics as well as reviewing performance against Health and Safety standards for Estates & Facilities. Informal meetings were not recorded. The formal meetings were all

documented with notes of meetings being routinely produced as part of the governance process

f) Why did you feel that Mr Loudon was less interested in the delivery of operational matters by the Estates and Facilities teams? Describe the areas Mr Loudon was more focused on.

A. Mr Loudon never asked any questions on operational matters. Mr Loudon was the Chair of the Operational Senior Management Group Meetings where various items were discussed and presented by General Managers for the Sector which included Estates via the Estates General Manager. This was the main route of contact regarding operational matters.

Mr Loudon was more focused on strategic management and planning of wider issues such as the clinical strategy. It appeared that he spent most of his time on Capital and Procurement and attending various governance groups at Board or National level.

g) Provide details of staff who reported to you and you were responsible for in these roles, and your relationship with them.

A. The General Managers for Estates & Facilities reported to me – Mr Alistair MacLean, Mr Billy Hunter, Ms Karen Connelly, Mr David Pace. All of these managers except Mr Pace had all had roles at the QEUH/RHC over time. My relationship with the General Managers was positive but I had inadequate time to spend with them due to the scope and breadth of my role. I had good working relationships with Mr Gallacher and Mr Powrie as General Manager Estates and Deputy General Manager Estates. I also was responsible for Sterile Services – Mr Alan Stewart who I had a good working relationship with. Procurement – Mr Gordon Beattie whom I had a good working relationship with, Mr Scott Young Corporate Services who I had a good relationship with. Mr John Donnelly, Head of Capital Planning who I had a good working relationship with. I felt I had good working relationships with my direct reports although I felt I had inadequate time to spend with any of them to support them fully or to scrutinise

their work in sufficient detail; I had to trust their professional competency, integrity and advice.

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

A. See previous responses

i) Please describe the handover process when you initially became Interim Director in 2014:

i. How long did handover process last?

A. Several months over the phased retiral of the post holder.

ii. Describe the handover process, if any, between you and Mr McIntyre when you took on the role of Interim Director. How was the terms of your handover recorded and where would records of these handover discussions and arrangements have been kept. What information was transferred between and Mr McIntyre during the handover process?

A. Mr McIntyre spent several sessions over many weeks before he retired taking me though the location of documents (there were significant volumes of paper copy records), taking me through capital planning for the year he left and the proposals for the following year which related to the soft and hard fm Board wide, outstanding actions from the Vale of Leven Inquiry. He highlighted on going claims (financial and legal), complaints in the system that needed to be concluded and who was coordinating them. This was all done verbally there were no written notes issued to me that I can remember

iii. What paperwork were you provided with?

A. Access to all archived data and current files as well as being shown where these were located and their contents. I was briefed in detail on any projects/papers due in the coming months that were already known about.

iv. Describe how you were briefed about the handover process for the buildings and what your role was in respect of this?

A. No one briefed me on the process of handover of the building except to indicate the indicative date keys would be provided to the operational team (which was then brought forward) and indicative migration timelines which would need detail added to them. My role in respect of handover was to cooperate with getting the hospital ready for patient migration this was the extent of the briefing.

v. What concerns, if any, did you have regarding the handover process? If so, who did you raise these concerns with?

A. At that time, I had no concerns as such, I was nervous about my understanding of estates related issues and lack of experience directly managing these at such a senior level. This was discussed with both Mr McIntyre, Director of Estates & Facilities and Mr Calderwood, Chief Executive who assured me my role was to manage the technical experts who were accountable for delivery of compliant services. I was not going to be responsible for Capital Projects, Procurement or the new SGH Project or the development of the estates workforce plans and work plans which would be Mr Loudon's and Mr Powrie's responsibility. My primary focus was to be on ensuring that the Board continued to function operationally and the development and mobilisation of Soft FM services to support the commissioning and migration of patients to the new SGH.

vi. Please provide details of who the technical experts were? How did you ensure that they were carrying out their role(s)?

A. The technical experts were Mr Gallacher, Mr Powrie,Mr Collins, Mr Fulton, Mr MacLean and their Deputies within Estates and the General Managers with geographic responsibilities(Alistair MacLean, Billy Hunter, Karen Connolly, David Pace). There were a number of routine meetings in place to ensure that matters were being progressed. These meetings included Estates Senior Management Team meetings, Statutory Compliance meetings, Water Safety Group, Senior Management Team meetings, ad hoc meetings to discuss any

particular topic that required discussion .I engaged externally directly with Health Facilities Scotland if required

vii. What concerns, if any, did Mr McIntyre raise with you regarding the water and ventilation system?

A. None that I recall. He indicated I think that there were challenges with achieving BREAM excellent status and significant work was in the concluding phase to be able to achieve this. This however would provide us with major in roads to the national sustainability agenda and make utility consumption affordable for the hospital and campus

viii. What information, if any, did Mr McIntyre provide you with regarding the decision to lower the maximum temperature variant from that set out in the SHTM?

A. None that I recall

viiii. What information, if any, did Mr McIntyre provide you with regarding the ventilation derogation as provided for in the M&E Clarification log? What advice or information, if any, did Mr McIntyre provide you with regarding the ventilation derogation?

A. None that I recall

x. What information, if any, did Mr McIntyre provide you with regarding the proposal at the time to accommodate the BMT patients from the Beatson at the QEUH/ RHC campus?

A. That the BMT patients needed to be co-located with theatres, imaging and ITU/HDU from Gartnavel General as services had been moved from the Gartnavel site .That a general ward was going to be commissioned as a project to accommodate them which would be led by Mr Calderwood, Mr Loudon and supported by Mr Powrie .That was the extent of what I recall at that time

xi. How long were you in this role for? Why did you change roles?

A. About 16 months or so I think. My role changed when the Project Director Mr Loudon took up his post fully as Director of Estates & Facilities. Mr Loudon had been appointed as Project Director /Director Designate Estates & Facilities. The role was therefore always going to be temporary.

xii. Did you act as Interim Director again? If so, when? Please explain how this came about.

A. In late 2017, Mr Loudon advised he was leaving the organisation. I was asked if I would act into the role until a permanent appointment could be made in the same way as I had previously done in 2014 by Mrs Jane Grant, Chief Executive. My role was to ensure that the Board continued to function operationally. The role commenced in January 2018.

If you acted in this role again, please confirm:

i). Describe the handover process

A. There was no formal handover as such – there were a few 1-1 meetings. I was dependent on the support of the personal assistant to both of us to navigate files and information etc.

ii) How long did the handover process last?

A. A few weeks in that I was asked in December 2017 if I would act up and Mr Loudon left the organisation in December 2017.

iii) What paperwork were you provided with?

A. Access to existing archives and files which were electronic. These however quickly became difficult to access as files began disappearing from the archives and could not be located. This was quickly escalated verbally to the Director of eHealth but no action appeared to be take despite my concerns. This appeared to be linked to the eHealth policy for deletion of files for staff who have left the service.

iv) What concerns if any did you have regarding the handover process? If so, who did you raise these concerns with?

A. I did not formally raise concerns with anyone on the hand over as I had previously had minimal contact with Mr Loudon. I felt overwhelmed at this point as I had been off sick for 6 months between Feb and August 2017 and was acutely aware I had missed 6 months' worth of business in this time and needed to get up to speed with what had been happening. I was aware from Mr Hunter, Mr Gallacher and Mr Powrie that they had significant concerns about the QEUH and the number of outstanding issues on the campus which had not been adequately progressed to completion whilst I had been off ill in their opinion.

v) On your return from sick leave, having been made aware of these concerns from Mr Hunter, Mr Gallacher and Mr Powrie, what action, if any, did you take to address these concerns?

A. I asked them to collate their greatest concerns into a document for me that I could share and discuss with David Loudon. Which they did. When David Loudon received this he agreed to facilitate a meeting with Multiplex representatives to try to address the issues. A meeting did occur and there was movement in a few areas

vi) If you did not take any action, why not?

see answer above

vii) How long were you in this role? Why did you change roles?

A. 10 months until the appointment of Mr Tom Steele as Director of Estates & Facilities. I changed roles with the appointment of the Director.

15. How was work delegated in the Estates team?

A. Local management arrangements were in place for the delegation of work within estates. This was controlled and monitored by the Head of Maintenance for Estates and the Estates Site Manager (Ian Powrie/David Bratty and Andy Wilson/Colin Purdon). The General Manager (Billy Hunter) oversaw the delivery of services in its totality within the Sector.

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

A. I did not delegate work on a day to day basis.

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

A. This was not my role. I did not complete this task

a) How then did you ensure that tasks including essential tasks responding to issues were managed and dealt with?

The Sector Estates Manager (Ian Powrie/Andy Wilson) was responsible for delegation of tasks at local level. They reported directly to the General Manager (Billy Hunter) who was responsible for scrutinising with the Sector Estates Manager the delivery of service and completion of essential tasks The Sector Estates Managers and General Managers attended the various governance groups to provide updates on progress in relation to workloads, compliance and so on .I depended on the Sector Estates Managers and the General Managers reporting on performance via the governance groups

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. I had personal concerns about key members of staff at various points due to the level of continuous stress that the team were operating under and the volume of work that was required. I spoke with each person on an individual basis to see if there was anything that I could do to support them personally (Coaching/mentoring/counselling/OHS) and, if appropriate, took action. I tried to identify with them on an ongoing basis if there were organisational actions required to progress any matters which were work related that could reduce stress levels and improve performance

a) Which staff members in particular did you have concerns about?

A. Ian Powrie, Billy Hunter, Karen Connolly, Andy Wilson at various points

b) What organisational actions, if any, were taken? The Inquiry has heard evidence from Ian Powrie that there was budget restrictions where staffing levels had to be reduced to meeting budget restrictions. Melville MacMillan also told the Inquiry that *'Insufficient staff were employed to run the QEUH campus.'* How were these staffing concerns managed and what role, if any, did you play in addressing these issues?

A. The Estates Workforce Business Case was completed by Ian Powrie and David Loudon for presentation to the Board. I was not part of the process except to be updated on the broad principles applied to the calculations by Ian Powrie and Rob Anderson (the Head of Finance for Estates & Facilities). I believe this may have been presented on a couple of occasions for approval by David Loudon and Ian Powrie to the Chief Executive. I was advised by Mr Powrie and Mr Anderson that the Business Case around staffing levels had been rejected due to financial constraints in the organisation. David Loudon and Ian Powrie both informally advised me that they had concerns about this but that assurance had been provided from the Chief Executive that resourcing levels would be addressed over time. The way this was dealt with at local level was by dynamic risk assessment on a daily basis to prioritise what needed to be addressed

based on daily operational issues and the use of 3rd party contractors to supplement staffing levels. I understood from the various governance meetings that the Head of Maintenance and the General Manager attended that minimum standards were being implemented in respect of ppm etc.On a number of occasions in various governance groups I asked Heads of Maintenance directly in regards to specific tasks such as maintenance of Thermostatic Mixing valves what each sites position was .There was space in each of these groups to escalate areas of non-conformance or concern

I was successful in pursuing funding for a range of 3rd party contractors to supplement the estates profile through service contracts. This occurred I think in 2016/2017 and 2017/18 financial years. I did not formally pursue my personal concerns about this as both Mr Loudon and Mr Calderwood were aware of the resource issue on the campus and I believed and trusted that resource levels would be addressed through time corporately

19. 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. When I returned from sick leave in August 2017 I raised concerns with Mr Loudon about the pressure that staff were under at the QEUH/RHC Campus due to the volume of work and number of issues that were being dealt with on an ongoing basis. This resulted in a change of geographic responsibility for the General Managers to provide a breathing space for the General Manager covering the South in particular (Billy Hunter). This also resulted in Mr Loudon arranging to meet Multiplex after a time to address the issues raised with him formally in respect of key issues after my return from sick leave. Mr Hunter, Mr Powrie and Mr Gallacher had collated a list of issues which they were concerned about which was provided to Mr Loudon ahead of the meeting with Multiplex. They had during my absence raised these with Mr Loudon on an individual basis, they advised me. I myself had raised my concerns to Mr Loudon and HR about the impact the additional workload and number of defects being dealt with on a daily basis had on my health which resulted in my absence

in 2017 and 2016. I requested a compressed working week to try to minimise the number of hours it was physically possible to work – this request was declined on the basis the post was a 5 day week post and that the workload was not going to change in the foreseeable future .I did not feel my concerns were taken seriously and that they were viewed as relating only to me not the impact on the health and wellbeing of the team more generally

a) Question for Witness: Describe the 'key issues' raised by David Loudon (including those submitted by Mr Gallagher, Mr Powrie, and Mr Hunter with Multiplex.

A. Lack of asset tagging, Zutec content and how it was impacting operational service delivery, lack of CAFM, CHP concerns impacting heating and cooling in the building. I think resourcing was raised at this time with David Loudon as well

b) Question for Witness: What action was taken and by whom to address these 'key issues'?

A. Mr Loudon arranged a meeting with Multiplex and eventually asset tags were found for the hospital and asset tagging commenced. This did not go well and in the end the Estates Team took this forward themselves to be able to use the information .It was confirmed formally to us by the Project Team at a meeting which Ian Powrie and the then ehealth Lead for Estates & Facilities attended to discuss what was intended to happen with the CAFM that CAFM was never going to flow with the project and that it had been agreed that Zutec was the main repository of information some time ago in the Project. However we were advised after review that Zutec was fully populated as per the contract and that any difficulties were due to the operational teams competence in using the system .Little occurred in relation to the CHP problems around cooling and heating the building except to advise that the CHP had not been accepted by the Board and that the problems were known about , eventually a letter was issued by myself to Multiplex on the defects associated with it resulting in the withholding of the final payment and a letter being issued to Multiplex .The letter I issued was drafted by David Loudon and left for me to sign off on the first day

I started in the interim Directors role Zurich at the first annual insurance inspection failed the CHP for certification

20. Describe the interpersonal relationships within the Estates team.

A. I cannot describe the inter personal relationships within the QEUH/RHC estates team as I was not part of that team and had not had anything escalated to me of concern. However, when I returned from sick leave in August 2017 Mr Hunter, Mr Gallacher and Mr Powrie came to see me to express their concerns at what was occurring at the QEUH/RHC in relation to addressing outstanding contractual matters and defects. They described that during the period I had been off that they felt that they had not been listened to or issues that they had escalated to Mr Loudon in connection with estates delivery were not taken seriously in relation to the impact on operational delivery of services I took these issues to Mr Loudon who arranged to meet with Multiplex to try to address these concerns (asset tagging/Zutec content/ PPM schedules provided not fit for purpose/CHP concerns and impacts on heating and cooling in the building).

a) What, if anything, happened following Mr Loudon meeting with Multiplex to address these concerns?

A. Asset tags were produced. Work continued on the CHP trying to get it functional for the site, which was not accomplished by the time David Loudon left the Board. The local estates team dealt with localised pockets of over/under heating on a day to day basis. Work commenced on developing ppms for the site which were paper based by the estates team with a view to implementing the same CAFM system as the rest of the Board

b) What were the defects that you refer to?

A. CHP functionality. Lack of asset tagging, heating & cooling in the hospital

c) Did DL explain why the issues raised with him by Mr Hunter, Mr Powrie and Mr Gallacher had not been actioned?

A. No. However I am not sure that the issues they raised with me had been formally raised with David Loudon whilst I was off. When I raised the concerns David Loudon arranged a meeting with Multiplex to discuss

Training

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

A. None.

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

A. None

23. 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 was General Manager in North Glasgow between 2009/2010 and 2012 with responsibility for the delivery of Hard FM in the sector. My experience was limited to the period I was General Manager in North Glasgow (2010-2012) and experience on specific projects such as the Catering Strategy.

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

a) Water

A. No

b) Ventilation

A. No

c) Infection Control

A. No

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. I received no training until 2019 when I undertook a Legionella Awareness Course.

d) With the benefit of hindsight how if, if at all, did lack the lack of training impact you carrying out your role?

A. On a day to day basis not directly as it is not uncommon in the NHS for senior managers to be responsible for services that they have no technical background in. However, during the water incident, I feel that it did directly impact as I was completely dependent on advice from others who were in the technical roles. I neither had experience or training in these areas and I felt very vulnerable. I found it extremely stressful that I was unable to challenge any of the technical hypothesis and solutions being offered. In order to compensate for this, I agreed and encouraged the use of external technical experts such as Mr Tom Makin, Mr Dennis Kelly, Mr Peter Hoffman, Mr Tim Wafer to find assurance in professional consensus of experts with extensive experience alongside the internal technical experts. However, it is normal for the Director of Estates & Facilities to not have a technical background in all disciplines which the post covers. I trusted the technical experts who advised me. I could not complete the role without their direct advice. The management structure was set up to allow this to happen.

25. Have you ever had 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. Not specifically however when I became Interim Director of Estates & Facilities in 2014 I discovered I had assumed the role of Designated Person Water. I found out about this when I started working with the Boards Water Safety Lead, Mr Alan Gallacher who had come to speak to me about the need to create a single Board Water Safety Policy. Mr Gallacher led on the development of the

content of the Board Water Safety Policy. When I enquired of Mr Gallacher as the Board Water Safety Lead if there was a need for me to undertake any specific training or development for this role I was advised that there was not as it was a management only role that would be informed by the technical experts who were Authorised Persons and were the Responsible Persons for each Sector and Site(The Sector Estates Managers) , who were fully trained and had fully responsibility for these matters. I acted on his advice. This advice was also echoed by other Technical Leads in other geographic areas at various times (Peter Collins,Ian Powrie, Tom Fulton, Ken MacLean) . I proceeded on the basis that when the Director of Estates & Facilities Designate came into post in 2015 that he would assume the roles associated with the post, so took no further action.

a) What action, if any, did you take to ensure that the roles of Authorised Persons were filled?

A. I did not personally take action as I was advised that the Responsible Persons would coordinate this and that they would ensure the training was in place
If a AP had been assessed by the Authorising Engineer as being competent to fill the role the Responsible Person (Sector Estates Manager) or Alan Gallacher would write to me confirming this and requesting I now issue the letter of appointment which was preagreed.

b) The Inquiry heard evidence during the hearings in August 2024 from Phyllis Urquhart that when she took up post that there was no one in post as Authorised Person. What would you say this this?

A. I can’t remember when Phyllis Urquhart took up post but I do not recall issuing Authorised Person letters until around 2014/2015 as no requests were made after Authorised Engineer assessment from the Responsible Persons. I think the use of Authorising Engineer for Water did not start in the Board until around 2012/2013. There was no visibility of assessments corporately until the Water Safety Group had been established I issued few of these letters as no recommendations were placed before me for issue to the individual During this

time staff were referred to as Authorised Persons by the Estates Maintenance Managers but no letters issued .I was not aware at that time that staff were not trained or signed off by the Authorising Engineers

c) The Inquiry has heard evidence that you were asked by Ian Powrie to ensure Authorised Persons and other appointed persons for water were appointed and a schedule of names was given to you. Is this correct? If so, what action did you take?

A. I issued the pre agreed template for appointment of Authorised Persons to the staff member copying in the Responsible Person. I do not know when Ian Powrie made this request

26. If you did:

a) What were these responsibilities?

A. In 2014 I became the Designated Person Water on an Interim basis.

b) Describe your responsibilities and the responsibilities, that you were aware of having as Designated Person for water.

A. My understanding of the role now is very different from what it was then. I believed at that time that the Responsible Persons were ensuring that the content of SHTMs were being applied in their areas of geographic responsibility. I believed this as this was in my view the basic role of the Head of Maintenance in each area overseen by a General Manager. No issues or concerns were being escalated to me via the governance groups or individually. I depended on day to day and strategic perspective on advice from them as the technical experts. In particular, I was dependent on advice from the General Manager Estates (Alan Gallacher) on the subject. I felt confident at that time in trusting the advice as he had previously been the Board Water Safety Lead and Responsible Person for Clyde Sector. I did not understand the role of Designated Person Water at that time and my direct responsibilities

c) What was the purpose of these responsibilities?

A. My understanding of the role now is very different from what it was then. Many of the individual tasks described in SHTM 04-01 Water Safety Written Schemes were I believed being completed by the Responsible Persons in each Sector. I depended 100% on day to day and strategic advice from them. In particular, I was dependent on advice from the General Manager Estates on the subject. I felt confident at that time in trusting the advice as he had previously been the Board Water Safety Lead.

d) With the benefit of hindsight do you now consider that these responsibilities were not being carried out by the Responsible Persons in each sector?

A. I do and I accept I was not fulfilling the role of Designated Person Water appropriately at that time from my current understanding and experience These roles were part of wider remits and often staff had significantly more than two AP /RP roles to fulfil as well as day to day operational responsibility for delivery of estates maintenance .In addition at the QEUH site the constant work demand in the first 2 years due to defects meant it was virtually impossible to provide enough dedicated time into any subject to close out actions or issues

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

A. In 2014 I was not aware of specific legal responsibilities except those referred to in the Board Water Safety Policy and discussed with the Board Water Safety Lead.

27. 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. Heads of Maintenance in Geographical Sector (Responsible Persons). Site Estates Maintenance Managers. Estates Managers.(Authorised Persons)

b) What were these responsibilities?

A. The Estates Managers and Site Estates Maintenance Managers were Responsible Persons for the areas under their control, which was inherent in their job descriptions. Estates Managers performed the role of Authorised Persons

c) What did you understand the responsibilities to be?

A. To be responsible for the control and maintenance of the water system within their control in accordance with statutory and best practice guidance.

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

A. I was aware that the Responsible Person for water on each site had legal responsibilities to maintain the water system safely.

28. Have you ever worked on a larger 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. No

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

We know that handover of QEUH occurred on 26th January 2015:

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

A. This was not my role at that time. I was not briefed on the contact terms and conditions. However I would have expected full copies of the Operational Manuals, as fitted drawings ,copies of testing regimes applicable to various systems such as water and ventilation, copies of commissioning and validation certificates and so on

30. Describe the process for handover of QEUH:

A. For the local team the keys to the hospital were handed over to them after a series of commissioning training sessions related to major infrastructure systems such as water, electrical systems, pneumatic tube system, Building Management System etc which were limited in content and time.

a) What contractual documentation was in place?

A. This was not my role- I cannot answer this question I was never provided with the detail of the contract terms and conditions

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

A. This was not my role. This was coordinated between the Project Director/Director of Estates & Facilities Designate and Ian Powrie who was going to be the Head of Maintenance for QEUH/RHC and had been embedded in the project. My understanding is that there was no /little paperwork handed over prior to handover, which I learned during the ongoing water incident. What was handed over was incomplete in terms of Zutec content

31. Was the building of the QEUH complete at handover – if not, what was incomplete? Was QEUH ready to be handed over at handover? If not, why was it not ready to be handed over? Refer to Estates Team Bundle, Bundle 12, Document 3, Page 23 – 'Stage 3 Adult and Children's Hospital Completion Certificate' defects noted therein when considering this question.

A. On the basis of this document, which I have not seen before it is my view the hospital was not complete at handover. There are a number of serious defects/issues that needed to be addressed that I would have expected not to be present such as a number of fire safety related issues, incomplete finishes impacting directly infection control environmental standards. However, on 27th January 2015 several hundred contractor staff presented for sign in to the local estates team to complete a range of works which the local team felt should not have been the case if the hospital had been ready for handover. I cannot provide the details of what they were there to do. However, the local estates

team who were not staffed to manage them required to issue permits to work and contractor ID badges.

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

A. The Project Team

a) Paperwork

A. Director of Project/Estates& Facilities Director Designate (David Loudon)

b) O&M Manuals

A. Director of Project/Estates& Facilities Director Designate (David Loudon)

c) M&E Clarifications Log

A. Director of Project/Estates& Facilities Director Designate (David Loudon)

d) Others paperwork as per the contract

A. Director of Project/Estates& Facilities Director Designate (David Loudon)

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

A. I now understand that very little paperwork was handed over to the local operational team – in some cases due to the contractual position – the Zutec system for instance did not require contractually to be fully populated until well after the handover date, a complete asset list. This became apparent as time progressed as opposed to something which was brought to my attention at the point of handover or mobilisation of the site.

33. Did you see commissioning and validation documentation for the water system at handover? Did you see commissioning and validation documentation for the ventilation system at handover?

A. No this was not my role. My expectation and assumption was this was a Project Team responsibility. I was advised this had happened by Mr Loudon, Project Director verbally. I also knew from Mr Ian Powrie that Dr Craig Williams had signed off on the water system after a series of microbiological tests had been completed.

a) How were you satisfied from Mr Powrie that Dr Craig Williams has signed off the water system? What evidence, if any, did you see of this?

A. I did not see any evidence that I recall. I trusted Ian Powrie who was directly involved in the process and was satisfied that from Ian Powries description of testing, disinfection and retesting that the system had been signed off by Dr Craig Williams

b) Did Mr Loudon advise you that both commissioning and validation has been carried out?

A. Yes, he advised that the hospital was ready for handover, including system testing and approvals. There was no specific discussion on ventilation or water systems detail with Mr Loudon, which I would not have expected if his professional opinion was that all the systems were ready for handover

c) Would you have expected this documentation to be available for both the water and ventilation systems?

A. Yes

d) Who was responsible for this documentation?

A. Director of Project/Estates& Facilities Director Designate (David Loudon)

e) What role, if any, did you have in respect of overseeing/ ensuring commissioning of the water and ventilation system prior to handover? If you were not responsible from GGC for overseeing/ ensuring commissioning who was?

A. I had no role in overseeing the commissioning prior to handover of the water and ventilation system. This work was the responsibility of the Project Team. I was not asked to participate

f) What was your role?

A. To provide management support to the Estates & Facilities Teams and to take a coordinating role liaising with the Project Director/General Manager/Head of Maintenance to get the building ready for patient occupation. I had no direct role in the technical handover; this was coordinated by the Project Director, Commissioning Managers and the local operational team.

g) Were you aware when commissioning and validation had been carried out?

A. I assumed this was the case as opening date and patient transfer programs were developed by the Project Team and agreed with the Board. I did not have documentation passed to me of this nature as this was not my role and not my technical expertise. This would normally be coordinated between the Head of Maintenance and the Capital Project Lead on other projects – I expected this to take the same course as Ian Powrie was embedded in a project team with significant capital experience (Frances Wrath and Peter Moir in particular).

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

A. This was not my role as I was not the technical lead

i) At Question 14.i)v. explained that you were responsible for 'manging technical experts who were accountable for the delivery of compliant services'. Therefore was it not within your role to ensure that commissioning and validation was carried out either by or on the instruction of technical experts? If not, why not and who was responsible for ensuring that commissioning and validation had been carried out?

A. It was made clear to me when I took up the role of Interim Director that the new hospital development and commissioning of the building were not my direct responsibility, that this was the responsibility of others; in particular David Loudon who would ensure a smooth transition from the Project to Operational Delivery having been appointed in both roles to ensure this would happen. Historically in NHSGGC the Capital Team completed the work on projects and supplied the commissioning and validation assurances to the local operational teams. The operational teams took control of the verification process which occurred annually after commissioning and validation. There had been no precedent for this to happen in a different way in the Board that I was aware of therefore I assumed this was the case after being advised I had no role in this. However, if at any time I had been advised differently I would have ensured that commissioning and validation occurred by following up the matter with the Head of Estates and the General Manager but I did not believe it was my direct responsibility

34. Was any other important paperwork missing at handover?

A. This was not my role and no issues were escalated to me directly except that ZUTEC was not ready for use and O&M manuals were not available. The lack of detailed asset tagging and incomplete data in ZUTEC was a concern for the estates team but one they hoped would be addressed by the Project Director quickly within the contractually agreed timeline which was post-handover of the building. As a consequence, there could never have been a robust planned preventative maintenance program developed for the hospital from handover.

35. If so, were you aware of this important missing paperwork at the time?

A. Only that the ZUTEC system was not fully populated. I was advised by the Project Director that this was not the case and that challenges being experienced were a direct result of the estates maintenance team being unfamiliar with the system and its use.

a) For clarity, did David Loudon, Project Director, tell you that Zutec was fully populated, and any issues were due to estates unfamiliarity?

A. Yes. He had been advised by the Boards Technical Advisors it was complete I certainly know this was Currie & Browns position from a meeting I attended to discuss the CHP

36. Operating systems at handover:

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

A. My understanding was that staff allocated to maintaining systems and the building came from the budget resource in place on the 4 demitting sites moving into the QEUH/RHC minus the savings identified at FBC.

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

A. Estates familiarisation sessions were coordinated between the Commissioning Manager and the local estates staff for staff transferring to QEUH. I was not directly involved in this process or the development of the training content.

c) Who carried out the training? Refer to Estates Team Bundle, Bundle 12, Document 5, Page 57 – 'Brookfield Multiplex Client Training & Familiarisation Register for Ventilation'.

A. Multiplex sub-contractors

d) Were Multiplex involved in the training?

A. I don't know if they directly were there but they certainly coordinated this.

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

A. On reflection now there was inadequate training provided. I was aware that staff attendance was a challenge due to staff still being operationally responsible for the sites in which they still worked and that catch up sessions were planned to address this on an ongoing basis and when staff physically made the transfer. Those staff who did attend advised the training was not practical in nature in some cases and lacked depth. Sessions were arranged with many of the system suppliers once the hospital was mobilised by the local estates team to address this which was more successful and appropriate than that offered by the Project Team and Multiplex.

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

A. I do not know what documents were handed over. I became aware of significant issues in this respect in 2017 when I returned from long term sick leave and was advised by Mr Hunter, Mr Gallacher and Mr Powrie that manuals/documents were not contained within Zutec which should have been there and if they were there they were stored in the wrong sections of the system resulting in time delays in locating where information was stored. I had previously been advised in 2015 that ZUTEC documentation was incomplete but there was at that time an expectation that this would be addressed – which it had not been by August 2017.

g) For clarity, who told you in 2015 that the ZUTEC documentation was incomplete? Who advised you that there was an expectation that this would be addressed? What was the time for this to be addressed?

A. Ian Powrie, Andy Wilson and Alan Gallacher advised me that Zutec was not appropriately populated. Ian Powrie and David Loudon both advised that the contract terms allowed a time for this to occur which I believe was 2017 and in accordance with the contract

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

A. I had no involvement in handover of the building technically. I was involved in commissioning the Soft FM elements of the building and preparing for patients transfer. I tried to support Mr Powrie as best I could but his day to day reporting arrangements were via Mr Loudon at handover.

a) Please explain how you tried to support Mr Powrie.

A. I had an open door policy for Ian Powrie and other managers. I met with Ian Powrie informally at various frequencies during the time he was seconded to the project. This was especially so after the handover of the building. I was aware he was under significant stress on an ongoing basis and tried to coach him as best I could while being mindful of the pressure he was under. If I could help facilitate issues I did so (financial, HR matters etc.)

38. Who signed the completion certificates?

A. I don't know

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

A. I am unsure but I would have thought that the responsibility for formally signing off things would be under the Project Director/Project Managers on behalf of the Board.

40. Estates Team Bundle, Bundle 12, Document 3, Page 23 – 'Stage 3 Adult and Children's Hospital Completion Certificate':

a) What is this?

A. It is a completion certificate

b) Have you seen it before?

A. No

c) Have you seen other such certificates?

A. No as this is not my role in the Board

d) Who signed off these certificates?

A. I would have thought that the responsibility for formally signing off things would be under the Project Director/Project Managers on behalf of the Board.

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

A. I don't know

f) What was your role/ responsibility?

A. I did not have a role in this

g) Looking at the defects referred to in the completion certificate documents 3 above: Look also at Estates Team Bundle, Bundle 12, Document 4, Page 27 – 'Capita NEC3 Supervisor's Report (No 46)':

(i) What are these defects?

A. A list of incomplete items identified by the NEC3 Supervisor

(ii) What was the impact of these defects?

A. Various but many of them could have an impact directly on health and safety for those using the building and for patient safety.

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

A. I don't know this was negotiated by the Project Team.

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

A. The Project Team

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

A. Some snagging issues are normal after a new build is handed over but these are usually small in number and minor in nature.

41. Refer to Estates Team Bundle, Bundle 12, Document 8, Page 66 – 'Programme for handover to start of migration':

a) Do you know what this is?

A. It's a project plan from key handover until patient mobilisation

b) Have you seen it before?

A. I don't specifically recall this document however I did participate in many of the work streams therefore I must have had sight of it at the time.

c) What are the numerous defects?

A. The defects are items identified as incomplete and requiring attention.

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

A. A project plan of tasks to be addressed before patients transferred then after transfer.

e) Do you have any comments regarding the number of defects?

A. There were an excessive number of defects which brought a very high degree of pressure and uncertainty for the operational teams.

f) Were you have been aware of this document at handover?

A. I don't specifically recall the content of this document but I must have seen it

g) Assuming you did see the documentation, given its implications do you recall what action you took, if so please describe?

A. I took forward the defects that I had any control over but most of these defects related directly to the contract arrangements which I tried to ensure were coordinated between the local managers and the project team.

I'm sorry I do not remember details around this

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

A. Yes, I may have been aware of it but I can't remember for certain the details.

42. Did the contract provide provision for handover subject to retention of certain parts? Was this enforced and why?

A. Yes, most construction projects have retention clauses. The CHP was not accepted by the Board due to defects – monies were withheld for this as part of the contract. I was not involved in this at handover and became aware in 2018 when I issued a letter to Multiplex in relation to the CHP which had been left on my desk by Mr Loudon for me to sign and issue as "my first interim director task".

a) What were the defects with the CHP? What impact, if any, did these defects have? In addition to the letter to Multiplex what action, if any, did you take to remedy the defects?

A. There were heat dumps occurring as the dump diverter valve had the incorrect application. There were issues with the boiler plant design which caused the boilers to run under capacity or to shut down completely. Multiplex tried to address this by derating the medium term hot water primary heating circuit which then impacted directly the domestic hot water circuits and heating in the building. The results of the modifications meant the heat exchangers were under sized to meet the design criteria.

All of these issues impacted the thermal comfort of the hospital and led to temperature excursions in the hot water systems. However, this could not be proved over an extended period of time due to the loss of archived data from the Building Management System

Apart from issuing the letter to Multiplex I discussed the issues with Alan Gallacher and Ian Powrie on several occasions. They were still meeting with Multiplex sub-contractors and Currie & Brown on the issues. After several meetings it had become clear Multiplex contractors and Currie & brown felt that all necessary works that were required were addressed by them – they would not take onboard responsibility for the various technical issues as being matters

to be resolved .I then agreed with Ian Powrie and Alan Gallacher it would be appropriate to get an independent third party specialist engineer to complete a review of the CHP as a whole .This led to a report being produced with actions on it and work continued on this to try to get the CHP working as effectively as possible

43. What responsibility for the build did Multiplex retain following handover?

A. To address snagging, warranty and minor operational issues directly attributable to the operating systems installed in the building. Mr Loudon coordinated this activity.

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

A. I observed sub-contractors of Multiplex on site but I am unsure of the contractual arrangements that were in place between Multiplex and them.

45. What concerns, if any, did you have about the opening of the hospital at handover? Refer to Estates Team Bundle, Bundle 12, Documents 19 and 21 and 21.1 when answering.

A. There were numerous issues at hand over which ranged in seriousness and potential risk from cracked and missing floor tiles, poor floor finishing ,poor wall finishes ,missing mastic, signage issues to PTS loss of power and consequent inability to use the system, foam cannons on the helipad not working due to water pressure issues caused by valves and pumps ,Overheating issues in numerous areas of the hospital that could not be addressed ,fire alarm faults ,lights not switching off through the hospital ,steel panel falling from level 4 due to poor fitting, leaks in the ETFE fire roof ,fire doors not closing ,glass panes falling from elevations into the public footpaths and walkways etc .Many of these issues had massive operational implications particularly on resourcing for estates and facilities .These were also very stressful events on an ongoing basis for the Estates & Facilities Teams

a) You have provided a very extensive list of issues; what action did you take?

A. On a day to day basis I was meeting with the Estates Team, Ian Powrie and Alan Gallacher on these issues and their resolution. There were a number of these issues which were addressed via the Project Team such as the glass panes falling, fire doors, the steel panel. It was difficult to navigate through who would make the final repairs but the role of the Estates Team was to try to make the environment as safe as possible on a day to day basis operationally to allow the hospital to continue to function which was extremely challenging. I was involved in work around /creating alternative service provision to keep the site going. This was especially so in relation to soft fm who were also experiencing significant challenges such as PTS system not working which meant that manual distribution of specimens on site were required, the Automated Guided Vehicles did not work for several months, which again required manual work around – these challenges occurring at a time when recruitment was difficult and staff numbers had been reduced. These issues were out with normal business as usual type ad hoc requirements of a site this size. The operational teams frequently felt overwhelmed with everything going on both for the maintenance team and the soft fm team.

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

A. I was not aware of anything which should have been installed being missing at handover however I was concerned at the volume of contractors on site still actively working on a range of issues which I felt should have been complete at the time of handover such as fire safety issues, fire doors were a concern from handover, lack of automatic doors, the front entrance door, signage etc.

c) Did you have any other concerns about areas of the hospital at handover?

A. I was concerned at the quality of flooring throughout the building and finishes to walls etc. I was also advised of some sewage leaks and floods in various areas, lights not working uneven flooring and signage being incomplete.

46. Detail the snagging process, refer to Estates Team Bundle, Bundle 12, Documents 90 and 91, Page 751, when considering your answer detail:

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.

A. There were a range of items for snagging including 5 panes of glazing falling from elevated height onto public walkways with no warning, fire damper maintenance not being possible due to concerns around CE markings, system performance and the inability to source a supplier in the UK who could maintain the system, fire doors throughout the building falling off hinges and not performing as fire doors due to poor workmanship. Snagging was coordinated between Multiplex and their sub-contractors with the operational estates team. The Project Director/Director of Estates & Facilities was directly involved in and managed this process. Multiplex and their contractors were on site for a two-year period after handover. There were numerous areas where snagging was identified, some of them significant. The list of areas for snagging are contained in documents 90 and 91. A number of items identified by the local teams were not accepted as defects as demonstrated from the document. In those cases, the local estates team had to address the issue as part of their daily activities over and above operational maintenance. This created significant pressure to an already stretched estates team – this was not part of their role but, due to patient safety concerns, the estates team tended to address issues on their own when advised the matter was not going to be addressed by Multiplex or their sub-contractors.

47. Refer to Estates Team Bundle, Bundle 12, Document 132, Page 936, with hindsight do you agree with Frances Wrath's comments that all area were commissioned in line with Employer's Requirements?

A. I do not have knowledge of the Employers Requirements so cannot comment

Asset Tagging

48. Describe and detail asset tagging:

a) What is this?

A. Asset tagging is the process of attaching tags/labels which are numbered to moveable and static assets in a location to be able to track data and the history of that asset for maintenance purposes. The asset tag identifies where the asset is located, what it is, what the ppm schedule attached to it is, a work history of completion of maintenance and who completed work on it.

b) Why is this important?

A. Asset tagging is used to develop PPM and maintenance schedules which allows assurance to be provided that the asset is being maintained and managed. It also allows a complete history of the asset to be maintained to be retained including evidence that PPMs have been completed, date completed and by whom. It is an essential component of the establishment of planned programs of maintenance.

c) Who was responsible?

A. Multiplex were responsible for asset tagging as part of the contract we were advised by the Project Team.

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

A. The impact of this not being completed at the QEUH/RHC was that there was no complete list of the assets and their location which required to be maintained. This meant that the estates team were unclear on what they were required to routinely maintain with its location, PPM schedules could not be developed to reflect statutory and mandatory maintenance requirements matched to workforce to complete the tasks. This created a great deal of stress and pressure for the entire estates workforce at the time due to the uncertainty around where/what assets were on site. The estates team had to negotiate with the contractor to supply a contractual requirement, which when it was

completed had to be unpicked and completed by the in house team to address the numerous errors the contractor made. Only after this could a functional programme of maintenance be developed and an electronic CAFM (Computer Aided Facility Management) system developed to support operational estates. Estates were forced to develop a paper based manual system to the best of their ability based on what assets they were aware of and dynamic risk assessment on a daily basis. This, coupled with the number of defects on site, the volume of operational issues such as heating and cooling not working in the hospital consistently, ventilation systems not working properly due to cabling for power and signal cables being collocated, chilled beams having dripping condensate, improvements required to clinical environments to keep the hospital operational and inadequate resources to address all impacted directly the estates team on a personal basis but also professionally .The team felt under ongoing significant pressure.

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

A. I was extremely concerned about the issues in the hospital and the lack of progress on particularly the asset tagging and CAFM development to support routine planned preventative maintenance. I also learned at this time that the Labs building which opened two years before the hospital had never had the asset tagging addressed either. This was disputed by Multiplex as not being part of the contract and the local estates team completed this task themselves as it was clear that this was not going to be addressed by the Project Team. Mr Hunter, Mr Powrie and Mr Gallacher all indicated their concerns on the lack of progress and the impact of the estates team had been escalated to Mr Loudon in my absence. Mr Loudon never discussed this topic with me except in the formal meeting with Multiplex to address the outstanding issues.

f) How did it become clear that the Project team were not going to address this matter?

A. The asset tagging was completed by the Estates Team in the Labs Building because two years after opening despite the issue of asset tagging being raised

from the building opening there had been no movement at all on the topic. The Labs Project Team was not the same team as the Hospital Project Team. It was therefore agreed locally that to get a ppm schedule in place with the necessary relevant data the local estates team needed to address this.

g) Did you escalate these concerns? If not, why not?

A. I escalated concerns to Mr Loudon on return from sick leave in 2017

h) Discuss any issues regarding asset tagging and how you managed this?

A. As described above the lack of asset tagging had a fundamental impact on the delivery of estates maintenance within the hospital. Paper systems of maintenance completion in a hospital this size were stressful, challenging and often incomplete due to the lack of knowledge on the location of assets. Staff turnover also impacted this as staff became familiar with systems/site then moved on quickly. Retention of staff was a challenge for a short period due to this as staff felt the job was too stressful.

49. Was there a contractual requirement to provide CAFM?

A. The operational team had been advised that there was a contractual requirement to provide a fully populated CAFM system. We were later advised around 2014 I believe that there was not and that Zutec would be what was handed over as a document repository

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

A. That was my understanding of the contractual position and that of others, including facilities, E-Health and Mr Powrie, Mr Gallacher and Mr Hunter. We had initially been led to believe that a fully populated CAFM system was going to be handed over with the building. However, we were subsequently advised by Mr Loudon that ZUTEC was all that was going to be handed over in 2014. This meant that we had no means of developing robust workforce plans or maintenance schedules prior to receiving the asset tagging information which was expected at the end of 2014 to create a full maintenance program. Tagging

on site was not completed by the local estates team until 2018/2019 and a CAFM system rolled out in part in 2019.

b) Is CAFM the same as ZUTEC – describe any differences and purpose.

A. No Zutec is a project management software which has been used to store drawings and O&M manuals; it does not have the functionality that would have allowed efficient management of records and the production of a maintenance program. CAFM systems have the functionality to establish maintenance programs, store asset records, capture feedback from remote hand-held devices on plant and systems condition records.

c) Should CAFM and ZUTEC have been provided at handover?

A. That was my understanding. This would have allowed the estates team a greater level of control and ability to plan what, how and who was going to maintain the assets within the building. Multiplex's view was that they had fulfilled their contractual obligations by delivering ZUTEC and the Project Team accepted this. Zutec was not handed over until after building handover which makes no operational sense at all in terms of workforce and maintenance planning for the hospital.

d) How do you know project team accepted absence of CAFM. Did you get any explanation?

A. I never received an explanation on this topic. We were advised as an operational team early in the project that this would be part of the project terms and conditions, which would greatly assist the local estates team in delivering services and providing workforce projections based on detail of the assets. Then after repeatedly asking by Ian Powrie when /how this would be taken forward we were advised that this was not the case and it was not part of the contract arrangements. This took us completely by surprise in 2014 and left little time to prepare a ppm schedule especially in the absence of a complete asset list.

(i) Who was responsible for ensuring provision of CAFM and ZUTEC?

A. Project Team

(ii) What was consequence of these not being provided?

A. There was no software (CAFM) provided to develop and implement robust maintenance schedules linked to the assets in the building and statutory compliance. This also prevented robust workforce planning to be completed prior to hand over based on the assets in the building. There were no storage facilities electronically for documentation which meant that a paper manual system had to be used. With no asset information and tagging being provided the full range of assets to be maintained and their location was unknown and best efforts were made to develop a limited paper based maintenance system. This had an extremely stressful and challenging impact on estates staff especially when defects were emerging or when ad hoc repairs needed to be made as there was no access to essential information on the assets.

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

A. The Project Director/Estates & Facilities Director Designate was aware that no CAFM was being provided. I was advised that Zutec was all that was being provided. When concerns were raised with the Project Director/Director of Estates & Facilities Designate (David Loudon) he raised the issue with Multiplex and advised the operational team that no CAFM would be handed over and required to be sourced and implemented by the operational maintenance team. Zutec was incomplete in terms of documentation when this was raised. I was advised by Mr Loudon this was due to the operational team not being able to use Zutec competently. Concerns expressed by Mr Hunter, Mr Gallacher, Mr Powrie and myself at hand over and in 2017 were not accepted by the Director of Estates & Facilities (David Loudon) whose view was that Multiplex had provided all documentation in accordance with the contract. Multiplex/Currie & Brown also rejected concerns raised by the operational team until 2018 when HFS confirmed to Currie & Brown in a CHP meeting that ZUTEC was not fully

populated and that information was not stored in the appropriate file structure. ZUTEC then began to be slowly populated.

(iv) Were you involved in getting answers from Currie & Brown? If so, what were they? Did they explain their change of view after HFS intervention?

A. The issue of the population of Zutec was repeatedly raised I believe by Mr Powrie. I tried to have a conversation with Douglas Ross from Currie and Brown who advised this was not the case, that it was populated in accordance with the contract. There was no explanation as to why the system was not populated however it appeared to us this was only addressed when HFS (a third party external body) confirmed this. It felt like the concerns of the estates team and Ian Powrie were not believed until this time and our concerns had been dismissed

50. Detail any issues in relation to CAFM and ZUTEC

a) Operation

A. The contents of Zutec were incomplete and inconsistent. O&M manuals for assets were missing or the wrong model/version supplied. There were no as fitted drawings for the majority of systems and those that were present were not complete. Access was for many months a major issue associated with the system I think but can't recall the detail of who did not have access to what areas of the system. Lots of information was missing I was advised. This was not taken on board by Multiplex or Mr Loudon as Project Director until HFS advised them in a CHP meeting that the Board's position the system was not fully populated was their experience as they had tried to navigate the system and found the same issues in 2018/19. Multiplex then did work to address the system issues and provide missing documentation.

b) User suitability

A. System was functional if it had been properly populated but it was not a CAFM system.

c) Any other matters

A. The complete disregard by Multiplex and the Project Director on this subject caused a great deal of stress and anxiety among the estates team. If the system had been properly populated with asset tagging attached to it this would have been one of the greatest assets to the delivery of Hard FM on site and would have allowed a CAFM system to be implemented. It would also have assisted in the management of the water incident. Mr Loudon was aware of the situation, as were Multiplex, but no action was taken by until 2018/19.

Detail above what were the issues, who was this reported to, what action was taken to remedy matters?

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

A. The NHS Team had to asset tag the site in 2018 and then populate a CAFM system which occurred in part in 2019. Asset tags were located by Multiplex in one of their staff's garages at home, we were advised when we met with Multiplex and Mr Loudon on my return from sick leave in 2017. They attempted to asset tag but it was so chaotic that NHS estates took over and developed and implemented their own system in the end, I believe. I was not involved in the final solution

HEPA filters

52. Were HEPA filters installed in the relevant rooms at handover (January 2015)?

A. At handover I do not know. However, they were not in place the weekend before the hospital was due to open to patients. This was identified and escalated to Mr Loudon by the Chief Operating Officer at a meeting on site as we prepared for patient migration. The hospital could not open to patients without HEPA filters being in place in certain PPVL rooms/ specific high risk wards (not all wards require HEPA filtration). Mr. Loudon facilitated through Multiplex the fitting of the filters and confirmed these were now in place and all appropriate testing completed for the hospital opening.

a) Did you find out how a hospital lacking filters and with air permeability issues had been approved for handover?

A. No there was no discussion on this. However, there followed significant work around PPVL rooms and isolation rooms which would call into question whether these had been commissioned and validated appropriately once the hospital opened

53. Were you aware of any issues with HEPA filters? Refer to Estates Team Bundle, Bundle 12, Document 22, Page 177.

A. Yes, the hospital was ready to open and patients be transferred on to site from other hospitals when it was discovered that no HEPA filters were fitted to a number of ventilation systems in the hospital. Multiplex did not seem to see the opening of the hospital with no HEPA filtration fitted as an issue and it was only when they were pressed with the Project Director (David Loudon) by the then Chief Operating Officer that the hospital could not open without them that arrangements were made to courier filters from other locations in the UK to the QEUH/RHC. These were then fitted and assurances provided these were in place and HEPA systems ready to be used having been fully tested.

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

A. PPVL rooms not having HEPA filters fitted.

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

a) Explain your understanding of the situation.

A. My understanding of the situation was that this was addressed by Multiplex and the Project Director when it was brought to their attention prior to patient movement.

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

A. The effectiveness of the ventilation system could not be guaranteed and HEPA filters were required specifically in areas of high risk patient occupation to protect patient safety

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

A. Risk of patient infection due to cross contamination from air borne bacteria.

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

A. HEPA filters were fitted by the Project Team and Multiplex prior to patient migration was my understanding of the situation at the time.

e) Should HEPA filters have been installed at handover?

A. Yes in areas where this had been identified as a requirement (areas with high risk patient population) – Bone Marrow Transplant Areas, PPVL rooms, ITUs etc

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

A. The Project Team and Multiplex

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

A. I do not know but obviously the Project Team were involved in accepting the hospital and the certification to underpin this.

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

A. I do not know but I had assumed that Dr Craig Williams had been involved in ventilation as he was the Ventilation Lead ICD for the Board.

i) Question for Witness: Please explain how you came to assume this, who advised you of this and when? Do you have any documentation which confirms this?

A. I assumed this due to Dr Craig Williams role as Infection Control Doctor and Chair of the Board Ventilation Group. I was advised by David Loudon that Dr Williams had completed the system sign offs for the hospital
I do not have any documentation to support this

j) Why was handover signed off without HEPA filters?

A. I do not know.

56. Were HEPA filters missing from any other wards following handover?

A. I cannot advise specifically the locations HEPA filters were missing from. My understanding was that HEPA filter fitting across the site was addressed by the Project Team and Multiplex prior to the hospital receiving patients. My understanding at the time was that the Project Director (David Loudon) took control of the situation at the time of handover and addressed all of the HEPA Filter /Ventilation issues as they arose. As time went on I realised that this had not in fact been the case e.g. when I returned from sick leave in August 2017, the PPVL room air permeability issue was the subject of a Capital Team Project to address deficiencies.

a) Discuss how this was managed follow Q55 above.

A. I do not know how the Project Team managed the sign off and certification of HEPA filter based areas prior to handover.

Chilled beams

57. Can the witness recall any specific events in relation to chilled beams?

A. I cannot recall the detail of any single incident. However, I was aware that there were incidents happening on site with water dripping from chilled beams and with the ongoing cleanliness of the chilled beams which posed a potential infection control risk. The chilled beams appeared to become dirty very quickly with dark particulates. It was also identified by the estates team that dew point controls had not been fitted to the chilled beams which was a contributory factor to the condensate drips. This was escalated to the Project Director and Multiplex. However, in many cases estates completed the retro fitting of dew point control I was advised.

For example:

a) Dripping chilled beams in critical care refer to Estates Team Bundle, document 63.

A. I do not recall this specifically.

b) Ward 2A cubicles 8-11 refer to Estates Team Bundle, Bundle 12, Document 106, Page 818.

A. I do not recall this specifically but the content of this document reflects my more generic recollection of what was being raised by the estates team.

c) Water samples being taken from chilled beams in Ward 6A refer to IMT Bundle, Document 73, Page 325.

A. I was unaware of this incident as I was no longer involved in the IMT or with Estates management.

d) Leakage chilled beams Ward 6A refer to Estates Team Bundle, Bundle 12, Document 138, Page 958.

A. I was unaware of this incident as I was no longer involved in the IMT or with Estates management.

e) Leakage chilled beams Ward 6A refer to Estates Team Bundle, Bundle 12, Document 139, Page 964.

A. I was unaware of this incident as I was no longer involved in the IMT or with Estates management.

f) Leakage chilled beams Ward 6A refer to Estates Team Bundle, Bundle 12, Document 142, Page 974.

A. I was unaware of this incident as I was no longer involved in the IMT or with Estates management.

g) Any other issues/ incidents not mentioned above.

A. N/A

h) When was a cleaning regime put in place in respect of chilled beams? How frequently were they to be cleaned?

A. I think a cleaning regime was put in place around the end of 2016/beginning of 2017 on an ad hoc basis. This was then developed into a longer term planned maintenance task after assessment over time of the systems need for cleaning.

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 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) 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. I am sorry I don't remember the detail of this and reviewing the documents supplied has not assisted this

Combined Heating and Power Unit

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

A. I am unfamiliar with the QEUH/RHC CHP design and specification detail

a) What is the purpose of the CHP?

A. The purpose of the CHP was to generate electricity whilst capturing and utilising heat generated from the production of electricity. By generating heat and power for the site simultaneously carbon emissions can be reduced and utilities bills minimised. The CHP had been designed specifically to achieve BREAM excellent requirements.

b) What condition was the CHP in at handover?

A. The CHP was not fully functioning at the handover of the hospital. My recollection is the CHP was not fully handed over to the Board due to the unit not fully functioning and being non-compliant with the Employers Requirements. Refer question 42A . There was retention of payments associated with this. I was not directly involved in this until Mr Loudon left the organisation in January 2018.

c) In what way was the CHP not compliant with the Employers Requirements?

A. Refer question 42A

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

A. Temperature control of the environment and the water systems were an ongoing challenge from hand over. Areas of the hospital were frequently overheating and over cooling which impacted directly on patient comfort and health and safety. The estates team spent a great deal of time on this initially trying to get consistency in the hospital temperatures and the water system temperatures. In the first year the size of the calorifiers and heat plate exchangers was looked at by Mr Gallacher and Mr Powrie in an attempt to improve on the situation.

59. Was commissioning and validation of the CHP carried out prior to handover?

A. I do not know what process was carried out as the CHP was not fully handed over at handover of the hospital

a) Did you see any commissioning and validation documentation?

A. No. This was not my role.

b) If so, what commissioning and validation documentation did you see?

A. I have never seen any.

c) Who was responsible for ensuring that the commissioning and validation documentation was in place?

A. Multiplex and the Project Team.

d) Were records of the commissioning and validation for the CHP kept? If so, where were they kept?

A. I do not know.

60. Who was responsible for ensuring that the CHP was operating correctly?

A. At handover the Project Team and Multiplex. Once the CHP was working the estates team were responsible for its operation.

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

A. Yes, this would impact patient care directly. Environmental temperature control is very important to delivering a safe patient environment which supports healing and recovery. Variations in temperature can impact recovery times and outcomes. Failing to control water temperatures can create the risk of microbiological contamination within the water system. This can have adverse health effects especially to those who are already ill.

62. What was your understanding of how the CHP should be operated?

A. I had no understanding of how it would operate except I had been advised that it would be one of the most advanced CHPs in the country in terms of its efficiency, running costs, technology and its contribution to the national Sustainability agenda. It had been designed with achieving BREEAM excellent in mind.

63. Were there cost considerations about operating the CHP? If so, did these considerations impact on its operation? How did they impact on the operation of the CHP?

A. There had been calculations completed to achieve BREAM excellent which was a standard stipulated by the Scottish Government as part of the contract I believe, which would result in a reduction in the level of utilities being used by the site when operational. This then impacted on the carbon footprint of the site and the Board. The calculations had a financial model attached to them. However, from an operational perspective the initial cost considerations were not a factor which impacted on trying to remedy the impact of the CHP not working. The CHP never ran to the projected financial model and it was never a subject discussed with me.

64. How was the CHP system being operated by GGC?

A. I do not remember any detail on this subject.

65. Were you aware of any operational issues encountered by GGC with the CHP? Refer to Estates Team Bundle, Bundle 12, Document 12, Page 101.

A. Yes, there were significant over heating and cooling issues throughout the hospital as a result of issues with the CHP.

66. Refer to Estates Team Bundle, Bundle 12, Document 16, Page 137:

a) Have you seen this before?

A. I think so – I have certainly seen versions of this document.

b) What is this document?

A. It is a snagging list of defects identified by the users of the building, estates and facilities impacting on the operational use of the building.

c) Column 274 – 'all CHPs cut out' – what does this mean? What would have been the impact on patients as a result of this?

A. I cannot find the reference referred to. However, CHPs cut out I would take to mean that the CHP stopped working completely for a period of time. This would result in all heating and cooling in the building going off which would impact the buildings overall temperature. It also would have a direct impact on temperature control of the water system which could result in a microbiological contamination risk.

d) Refer to Estates Team Bundle, Bundle 12, Document 36, Page 272 what was the incident referred to? Were you involved? How was this matter resolved?

A. This document refers to room pressure testing and air permeability checks in ward 2A before patient transfer. I was not at this point involved with this. Mr Loudon, Mr Powrie and Mr Calderwood were directly involved in this. I

understood all issues of this nature were addressed prior to patients occupying the area

67. What happened in respect of Zurich?

A. Zurich failed the insurance test for the system in the CHP.

a) Please describe why Zurich failed the insurance test, who was responsible for this?

A. I believe components were not CE approved and contravened the pressure systems legislative requirements

68. Refer to Estates Team Bundle, Bundle 12, Document 113, Page 848:

a) What is this?

A. This is the final NEC3 Supervisors Final Defects Certificate

b) Why was it issued in 2017 and not earlier?

A. My understanding was there was a contractual agreement that the defect period was 2 years.

c) What was the consequence of this?

A. In my view there was no rush by Multiplex or the Project Team to take on board issues and address them quickly. Often issues being raised were rejected or disputed as being the responsibility of Multiplex. Management of this defects list and completion of tasks on it was a major undertaking for the estates team. All the defects had an operational consequence to estates or facilities on an ongoing daily basis which far exceeded any projected workforce projections or estates & facilities expectations of what tasks they required to fulfil on an ongoing basis. There was little understanding or appreciation of the consequences of this by Multiplex or the Project Team on the site or the ability of the estates team to manage the building.

d) Whose job was it to ensure that the there was an appreciation of the operational consequences by Multiplex and the Project Team?

A. David Loudon and Ian Powrie supported by Frances Wrath and Peter Moir I believe as part of the Project Team. All of these individuals were experienced healthcare Estates and Capital managers

The intent of Ian Powrie moving over to the Project Team was to ensure that operational consequences of decisions were understood. However, by the time he moved over most of the designs had been completed and agreed

e) On what basis did Multiplex carry out the work?

A. Work was completed in bundles by Multiplex and their contractors.

69. Refer to Estates Team Bundle, Bundle 12, Document 135, Page 949:

a) Please explain what this email was about.

A. This email relates to the retention of monies instructed by the Board to its advisors Currie & Brown in respect of the CHP not working. Currie & Brown were looking to release the final payments to Multiplex for the CHP on the basis that as far as they were concerned matters had been rectified. I was not in a position of authority to release this money and instructed Currie and Brown not to release these monies until the CEO and the Board Director of Finance had approved these. This was then handed over to them to conclude.

was the money released or not?

A. Sorry I am not sure.

Water Guidance and Obligations

70. What guidance applies to water? How did you/others ensure that guidance was complied with? What contractual documents, if any, would you consult to ensure guidance was complied with?

A. Health & Safety at Work Act (1974), The Control of Substances Hazardous to Health Regulations (1994) and ACOP L8 (Approved Code of Practice Legionnaires Disease; Control of Legionella bacteria in water systems), SHTM's. I did not complete a physical check of whether guidance was being applied – this was the role of the advisors and the Project Team in my view. I was never asked to participate in this or to check any contractual documents relating to the hospital to ensure guidance had been included.

71. Who was responsible for ensuring a safe water supply following handover?

A. Operational Estates Maintenance managed via the Sector hierarchical management structure reporting to myself.

72. What was your knowledge and understanding of Health and Safety regulations on control of legionella at the time?

A. My understanding was extremely limited at this time. I understood that the Health & Safety at Work Act (1974), the Control of Substances Hazardous to Health Regulations (1994) and that ACOP L8 which is the Approved Code of Practice Legionnaires Disease; Control of legionella bacteria in water systems was applicable. I learned this whilst working with the General Manager Estates on developing a Water Safety Policy for NHS GGC around 2014 when I read as much as I could on the subject.

73. Who was the Dutyholder?

A. The Chief Executive was the Duty Holder. I was the Designated Person for NHS GGC. When I took over as Interim Director in 2014 no one discussed this role

with me or what was involved in it. I realised I had a role in water safety management when working on the Board Water Safety Policy and thereafter tried to improve my understanding on the topic by reading and instigating discussions in various estates management forums with the Responsible Persons from each Sector. I felt I could trust the Responsible Persons as they had decades of water safety management experience and were mainly qualified engineers. I also had the General Manager Estates who had previously been the Water Safety Professional Lead for GGC until he was appointed as General Manager and compliance lead for the Board.

74. Were you aware 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?

A. I was not aware of the range of duties that I was expected to complete at this time. I had been advised by the technical leads and others that this was a management position to coordinate the output from the technical experts. When I read the SHTM's I became aware of the need to appoint an authorised person. The advice from all of the technical leads in GGC at this time was that SHTM's were best practice guides which we should try to achieve but that these were not mandatory. Each Sector Responsible Person placed little importance on the appointment of Authorised Persons at that time which was described to me by all of them as being best practice, not mandatory or statutory, and that initial focus should be on processes and procedures being developed to maintain each individual water system safely with its own unique issues with the statutory standards before moving on to making formal AP appointments. Some AP appointments were made on the recommendation of some of the Responsible Persons and Authorising Engineer in various Sectors which I signed off and issued as directed.

a) Can you help us understand who in NHS GGC was telling you this about SHTM, and not to make formal appointments of Authorised Persons?

A. No one told me not to make formal appointments of APs.The advice to me from the senior management team in estates at that time was that there was a process to go through for AP appointments and that there were a range of issues relating to water safety that should be the focus of attention such as development of written schemes, I issued the letters as requested and signed off by the Authorising Engineers. I did not understand at that time that the number of APs and their appointment was my responsibility. I heard the Responsible Persons referring to having APs in post and did not directly ask questions of how the designation was made between individuals.

75. Commissioning of water system prior to handover/ patient migration to QEUH:

a) Requirements

A. I was aware that the water system required to be tested for TVCs, Legionella and Pseudomonas prior to hand over. As part of commissioning the system temperature control parameters and water system temperatures compliance with the ACOP L8 guidance should have been checked and considered SHTM 04-01 Part A Design Installation and Testing, HSG274 Part 2.

b) Who was responsible for this?

A. Project Team as part of commissioning and sign off of the water system prior to handover of the building

d) Can you assist the inquiry to understand why an L8 assessment was not done before accepting handover?

A. I am sorry I cannot .Based on what I now know and understand I should have ensured this was in place and dealt with before patients migrated into the building .I did not believe pre occupation risk assessments of any kind were my responsibility after being advised that I was not responsible for the project, commissioning and handover of the building by the Chief Executive when I was made Interim Director I also believe that this should have been picked up by the Project Team and their Technical Advisors I wrongly assumed this would

be picked up by the Project Team as it was a pre occupation risk assessment which I believed was their responsibility .

e) What checks were carried out to ensure that the water system had been commissioned. Refer to Estates Team Bundle, Bundle 12, Document 132, Page 936.

A. Multiplex contractually I believe, overseen by the Project Team. Normally independent testing is carried out for commissioning and verification of systems but I believe GGC gave up the right to this as part of contract negotiations with Brookfield.

f) Was SEPA/ the Water Board involved? Describe role and involvement.

A. I do not know I do not think they were directly involved other than with mains water testing at the time of connecting QEUH to the main water mains

g) Which teams (such as infection control) were involved in the water system sign off, Who would have signed it off on behalf of those teams?

A. The Project Team, Infection Control Team and Ian Powrie from the Estates Team. I understood Dr Craig Williams as ICD signed off on the water system. Dr Williams was also the built environment lead within infection control.

h) Were L8 testing requirements complied with?

A. I was advised at the time they were prior to handover. Having seen the information as part of the water incident I believe they were in relation to sampling.

i) Who advised you of this? Was the information not that the L8 pre-occupation assessment had not been done before handover?

A. David Loudon and Ian Powrie advised the systems were ready for handover. I assumed this was in terms of testing/sampling regimes, validations and any pre occupation assessments that flowed from these.

j) Were there any legionella concerns at handover? Is so, what was done to deal with these?

A. No not at handover as I was advised verbally the water system had been tested and commissioned. Mr Powrie advised there had been some TVCs and low level legionella positives identified in the initial testing, disinfection had occurred and that all results were then signed off by Dr Craig Williams prior to handover. I was satisfied with this information provided verbally.

k) What concerns, if any, did you have about water sitting in the system before the hospital opened?

A. Flushing of outlets was put in place prior to opening by using agency staff to supplement Soft FM staff. This was completed on nightshift and overseen by the local Soft FM team. This was an area of concern with the building not being occupied and having so many water outlets that water would stagnate in the system. Water temperatures were also considered particularly due to the volume of little used outlets being flushed It was assumed the water system was clean at handover.

l) Should you have 'assumed' water was clean at handover? Especially without an L8 report?

A. I now understand that I should not have assumed this without having the pre occupation L8 assessment. I assumed this was completed as part of the assurance provided that systems were ready for handover. I also was aware that appropriate testing had been completed of the water microbiologically and that this had also been accepted as being fit for purpose by the Project Team

m) Were you aware of any issues with the testing of the water system?

A. Mr Powrie advised there had been some TVCs and low level legionella positives identified in the initial testing, disinfection had occurred and that all results were then signed off by Dr Craig Williams prior to handover. I was satisfied with this information provided verbally. Mr Loudon also confirmed this verbally to me.

n) What is your understanding of the SHTM guidance in respect of water?

A. The SHTM's provide advice and guidance to healthcare management, design engineers, estates managers and operational managers on the legal requirements, design, maintenance for hot and cold water systems.

o) Was the QEUH/ RHC water system SHTM compliant at the date of handover – if not, what was outstanding? Who was responsible to ensure that the water system complied with SHTM?

A. I did not assess the compliance of the system at handover. I was advised throughout the building process and commissioning process verbally that the water system was compliant with all guidance. The Project Team and the Board Technical Advisors were responsible for this review I believe.

p) Who told you system was compliant with all guidance?

A. I recall a conversation with Alan Seabourne, the project director before David Loudon advising me when I asked if there was anything I needed to do regarding the water system at that stage. Alan Seabourne advised that I was not to worry about it that designers were ensuring we would have the best water system we possibly could and the Project team would ensure this. David Loudon also indicated in conversation that the hospital systems would be the best in Europe such was the focus that had been placed on development of compliant systems

q) Was a pre-occupation water test done prior to occupation? Refer to Estates Team Bundle, Bundle 12, Documents 14, 14.1, 14.2, Page 110:

A. These documents indicate that there was testing of the system completed as part of the process.

r) Who carried this out?

A. I do not know who carried this out – I think it may have been DMA Canyon. As indicated in the report there were 12 items identified as needing to be addressed.

s) If this was not done, should it have been done and why?

A. I do not know if these were addressed at the time. They should have been addressed to maintain the water system integrity.

t) Consequences of not doing it.

A. The consequence of not completing the items would be the potential to compromise the water system.

76. What was the post occupation water testing regime at QEUH?

a) Was carried this out?

A. Legionella control testing, TVCs and pseudomonas testing in high risk augmented care areas. Temperature control checks were also being completed. The estates maintenance team were carrying this out supplemented by DMA Canyon when required.

b) Who carried out testing?

A. Estates staff and DMA Canyon on occasions.

c) Your involvement with the testing?

A. I had no day to day operational involvement in testing or oversight of results.

d) How frequent was testing?

A. I do not remember being advised that testing was not in line with guidance by any of the technical estates leads. I can't remember what the frequency of testing was.

e) Did this comply with L8 and SHTM guidance? If not, why not?

A. I understand now that wider testing would be required to comply with L8 guidance but testing was managed on a risk basis at that time. At the time the technical leads assured me that enough was being done to comply with guidance.

f) Did you know an L8 report should have been done. If so, did you try to find out if it had?

A. I am not sure that I did know this detail. I did however ask Ian Powrie if all the systems were fully signed off and documentation in place. He advised that was what he had been told by the Project Team that all systems were ready for handover although he did not get access to the documentation directly.

g) What happened to the results?

A. Results were retained by the estates department

h) Your role in connection with the results of water testing?

A. I did not have a day to day role unless the Estates Responsible Person escalated to me any areas of concern , which they did not.

i) Where were the results stored?

A. These were stored electronically and on paper by estates.

j) What action was taken in response to results?

A. Elevated counts which triggered guidance thresholds resulted in disinfection processes being applied and system retesting until acceptable levels are met this involved discussion between Infection Control and Estates.

k) Was there an escalation process?

A. Out of spec results were discussed with local infection control teams and addressed locally in terms of corrective actions. If there were any patients

involved in an incident the local team attended the PAG or IMT. If they were concerned the estates team Responsible Person then escalated to me. The only escalation I ever received was in respect of the RHC IMT in March 2018.

77. To what extent, if any, does the water system now comply with SHTM guidance?

A. I cannot answer that question. I left GGC in 2021 and my involvement in estates and water safety ended in 2019.

78. What documentation have you seen to confirm this?

A. N/A

79. What work has been carried out to comply with SHTM guidance?

A. N/A

80. What work was carried out before GGC took occupation?

A. I cannot answer this.

Water - Commissioning and Validation (C&V)

81. Have you had sight of the commissioning and validation documentation prior to handover in 2015 – if not, who would have had sight of this?

A. No. This would have been seen by the Project Team

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

A. In this case it should have been in ZUTEC. There was no designated location for the storage of such documents in a wider organisational sense .Historically these are paper copies which are handed over by the Project Teams at completion /building handover.

83. What is the purpose of C&V?

A. Commissioning is to ensure that the system is operating as it should be based on the design and construction such as pumps, pressure vessels, calorifiers are working within defined design parameters. Validation measures the output from the system as a whole to ensure that the system individual parts and components are working together to ensure the system is working as designed.

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

A. Potential contamination of the system and issues with the day to day operation of the system. Failure to commission and validate a system does not necessarily mean that it will be contaminated however it can be an indicator that the system has a risk of contamination if the system is not operating within design parameters and has not been checked then there is no evidence that for instance temperature control of the water system is being maintained.

85. If the water system were to have no C&V before handover in 2015, what concerns, if any, would you have? Why would you have these concerns?

A. That the water system may be potentially contaminated microbiologically. Commissioning and validation is the last opportunity before handover to ensure that the water or ventilation system is clean and free from contamination and operating at a level to prevent contamination.

86. Describe the same in respect of verification and the cold-water supply system.

A. That the water system may be potentially contaminated microbiologically. Commissioning and validation is the last opportunity before handover to ensure that the water system is clean and free from contamination.

87. Were you aware of C&V of the water system being carried out post-handover?

A. No

a) Who was responsible?

A. The Project Team

b) How was the C&V recorded?

A. I don't know

c) Any concerns arising from post-handover C&V? If so, why did these concerns arise?

A. I don't know

Water Maintenance

Refer to Estates Team Bundle, Bundle 12, Document 10, Page 75. This is the Infection Control Workplan and does not refer to Estates related cleaning documents.

88. 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 cannot answer as I cannot access the information referred to

b) What is the importance of this?

A. I cannot answer as I cannot access the information referred to

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

A. I cannot answer as I cannot access the information referred to

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

A. I cannot answer as I cannot access the information referred to

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

A. I cannot answer as I cannot access the information referred to

f) Were there ever concerns raised about cleaning practices? IMT bundle, Bundle 1, Document 22, Page 91. Detail these concerns. Have regard to that in her statement Dr Teresa Inkster stated that she *'emailed Karen Connelly and Maryanne Kane in May 2018 highlighting concerns in relation to level 4 QEUH, Ward 2A RHCG, PICU and Ward 3C reported by staff or IPC colleagues. They met with relevant teams and IPCNs to discuss and thereafter addressed the concerns.'* Dr Teresa Inkster comments that the cleaning issues were taken seriously, but were reactive rather than proactive – discuss, do you agree, please explain why.

A. No I don't agree with Dr Inkster there had been significant work completed on the site in relation to cleaning services when I returned from extended sick leave as a result of two HAI Inspections for the hospital and concerns about cleaning standards on site. I cannot speak to concerns about standards of cleaning whilst I was off sick. I returned from sick leave in August 2017. I was asked by Mr Loudon to complete a review of cleaning standards on site during the period August – December 2017. This resulted in a re alignment of the general management structure and staff structure for domestic services on site. This included a comprehensive review of hours on site, training and retraining of staff, supervisory cover and so on. Reviews of this nature occur on a routine basis for cleaning services in GGC. Dr Inkster would not be aware of any of this work being ongoing and never discussed this directly with me that I can recall.

g) What, if any, matters regarding the maintenance of the water system were escalated? If so, were they escalated BICC or AICC?

A. I don't remember any issues being escalated to AICC or BICC until IMTs commenced

h) Explain the use of dosing and chlorine dioxide in the cleaning regime. IMT bundle, Bundle 1, Document 30, Page 128.

A. Chlorine Dioxide had been identified by the Water Technical Group as being the most likely method of bringing the water system under control. It would also address any biofilm identified in the system. However, what the Water

Technical Group did not know was how long it would take to bring the water system under control. There were detailed discussions on other locations where chlorine dioxide took 6-9 months to address a water system and that treatment needed to start before a realistic consideration could be made to how long it may take to bring the system under control. At this stage there was no proof that this would work. What was also unknown was how much biofilm would be released from the pipework of the system. If biofilm was released in quantity the dosing regime would take longer to impact the system. The strength of the chlorine dioxide being dosed also needed to be built up in the system to be effective – this took place over time. What is being described in the document is the high level implementation of the chlorine dioxide and its potential impact on the hospital. The introduction of shock dosing over a 24-hour period was logistically challenging to keep the hospital running and required a great deal of clinical coordination to ensure patient safety. This was later discounted by the Water Technical Group as not required as part of the implementation of the chlorine dioxide dosing of the system from a technical perspective.

i) Clearing of drains in June 2018 following water incident -relevance and purpose. IMT bundle, Bundle 1, Document 27, Page 114. Did this resolve the issue? IMT bundle, Bundle 1, Document 38, Page 164, why was expert advice required?

A. Drain cleaning became of relevance when black sludgy material was identified in the drain areas of sinks throughout the hospital. There had also been a positive patient case in Spinal Injuries that year which had been connected to drain contamination I am unsure if this was a confirmed or suspected case as I had not been involved in the incident. This highlighted further the need to consider all possible routes of contamination in the hospital. It was decided that drains therefore had to be cleaned to rule out contamination from this source. Testing also occurred on the drain pipe connections which were identified as being a product which could be degraded when fitted. These were replaced by the same part made from a different product which assisted in resolving the problem.

j) What happened in response to concerns about on-going maintenance and cleaning? Did you personally take further action? For example, taps, refer to Estates Team Bundle, Bundle 12, Document 121, Page 911.

A. I tried to address any concerns about maintenance in any area as they arose – this was not just at QEUH/RHC .I did this by linking in with the Sector Estates Manager and the Sector General Manager to identify what the issue was, how it had come about ,what the immediate risk was to patient safety and what potential solutions were .If the solutions required capital funding, papers were produced for the Board Capital Investment Group; if the issues were revenue solutions (pays or supplies), discussion occurred with the Head of Finance to try to resolve these. A lot of the ongoing concerns identified at QEUH/RHC were addressed by sub-contracting work from estates as there was inadequate resources to address all of the issues being identified. The WTG dealt with most of the estates related issues and cleaning was never discussed in this forum for the hospital generally.

k) What more could have been done?

A. I do not know it was an extremely high pressure environment at the time which stretched already thin resources and individuals professionally

89. 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) Do you agree with this statement? If so why, and if not, why not?

A. No, I did not instruct any member of staff not to give microbiologists access to water testing results. In my view microbiological testing needs to be assessed by the microbiologist, not the estates team. I do not know why Dr Inkster would allege this.

b) If you do agree with the statement, why did you direct that microbiologists should not have access to water testing results?

A. I do not agree that I instructed anyone to not give access to microbiologists to any documentation

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

A. When I returned from long term sick leave in August 2017 as part of my phased return to work, Mr Loudon advised me that if I was contacted by the microbiologists for water or ventilation information relating to the QEUH/RHC commissioning results I was not to provide this but to refer them to Mr Craig Williams, Infection Control Doctor who had the data to share. I was advised that there was an ongoing whistleblowing complaint in progress which was highly political internally and I was not to become involved. In any case I did not have access to this data directly and would have needed to point anyone asking for such data to Dr Williams or Mr Loudon

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 detail for your rational and the consequences of withholding information.

A. I have never refused or directed others to refuse to hand over information to microbiologist. I received one enquiry for this information from Dr Peters which I responded to as requested by Mr. Loudon – that the information sought could be obtained from Dr Williams. I advised Mr Loudon that I had followed this course of action on this occasion. I never responded to any requests for information like this again nor was asked to.

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

A. I did not receive requests for access to water results from microbiologists. I had no day to day contact with microbiologists I did not have access to water results without referring to the Estates Technical Lead on each site and sector who

retained the details at local level. If I did receive a request, I would have directed them to Mr Powrie or Mr Wilson as Head of Maintenance for the QEUH site.

f) In her statement Dr Teresa Inkster has stated ‘As sector ICDs in the QEUH we often had trouble getting access to some results such as water results. Christine Peters and I would email a range of people including the then ICM Maryanne Kane and Prof Williams. Often, senior management would respond asking why we needed to see the results because the lead ICD had already seen them rather than providing what we asked for.’
Do you agree with this statement? If so, please provide the rational for adopting this approach.

A. No I don’t agree with this statement. I recall one request from Dr Peters which I directed her to Dr Williams, as instructed by Mr Loudon. I also advised Mr Loudon when the request was made. I was not at work for approximately 8 weeks in 2016 and for 6 months in 2017 due to long term sickness. During this time any request made to me would not have been responded to as I was not physically present at work. I do not know if an out of office message was placed on my email account by the organisation to advise others of my absence whilst I was off When I returned to work I had a specific range of tasks to complete which were to be my focus. I did not take up my full range of duties until October 2017 due to a phased return I was also never a ICM my post was at that time Associate Director

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

A. If I had not been instructed to answer in this way, I would have directed them to the estates maintenance manager for the site- Mr Ian Powrie or Mr Andrew Wilson to access these. There was no reason not to provide access to these in my view except I had been instructed not to do so directly. The Estates Maintenance Managers on each site retained the water testing results I did not.

h) Your role in dealing with these requests for information?

A. Routinely I did not have access to the water testing results. I do not have contact with microbiologists on a day to day basis. If I had received a request, I would have had to refer the requestor to the Estates Technical Lead who had access to the reports. However, I did not routinely receive such requests for information. Local Estates Maintenance Managers on other geographical sites dealt directly with the microbiologists and provided any information via this route. QEUH/RHC was no different in that regard

i) How were these requests for information managed by your department? What did you do/ not do – who directed this?

A. I did not get direct requests for water testing information. Sector and Site Maintenance Managers dealt with these requests on an ongoing basis and worked alongside microbiologists at local level.

j) 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 did not understand why this approach was being taken. I was advised that there was a whistleblowing case being handled by the Chief Executive, the Medical Director and the Director of Estates and Facilities which I was not to become involved in as it was being dealt with through the appropriate channels. If a request was received from the microbiologists, in particular Drs Peters Inkster and Reading, then I was to direct them to Dr Williams and I complied with the request of my line manager. I had just returned from 6 months sick

leave and acted on the direct instruction of my line manager I did not feel in a position to challenge a direct management instruction especially when it was made at the same time as me being advised that if I was off sick again there were very serious consequences to my continued employment with the Board.

k) Who advised you there would be very serious consequences?

A. David Loudon

DMA Canyon Reports

Refer to Bundle 6 – Miscellaneous documents – Documents 29 and 30, Page 122.

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

A. Yes

91. Who ordered this?

A. Ian Powrie after a Project Team Meeting where it was discussed- I believe from discussions after the event.

92. Who signed off on payment?

A. I don't know – the Project Team I assume

93. How was this signed off or payment processed?

A. I don't know

94. Who was the report sent to?

A. Mr Powrie I later found out in 2018 when it was submitted to HFS by Mr Powrie in a bundle of information relating to the handover of the QEUH/RHC. However, at the time of the report being produced Mr Powrie remembered receiving it at a meeting with DMA Canyon to discuss its accuracy. At this meeting I was advised David Bratty and Jim Guthrie were in attendance.

95. When did you first become aware of the DMA Canyon 2015 report?

A. Around May 2018.

a) Ian Powrie told the Inquiry that you were aware at the time that he ordered the 2015 Report. Do you agree with this? If you were not aware, should you not have been given your role as Designated Person for water?

A. I don't remember a conversation about this at all I am sorry. If Ian Powrie indicated to me that this was required I would certainly have replied that the work should be instructed. I did not believe it was my responsibility I believed this was the role of the Project Team as pre occupation risk assessments should occur before handover of the building

What was the purpose of the report?

A. This was the pre occupation risk assessment.

96. Who had the report?

A. Mr Powrie had the report. I understand that It was not circulated any further than at a local level I later found out in 2018.

97. When Were DMA Canyon present at QEUH/RHC site between 2015 and 2018?

A. Yes – they were on site on numerous occasions. A Risk Assessment was completed by them in 2015,2017 and 2018. They also attended site to carry out water system disinfections and minor work requested by the Estates Team. I do not know what else they did on site. They were managed by the Estates Team.

98. Did DMA Canyon ever mention the report during their time on site between 2015 and 2018? If so, when and what was mentioned?

A. I don't know I never met with DMA Canyon. This was the role of Mr Powrie as Estates Manager and Mr Gallacher as Water Lead for the Board.

99. When were the works suggested in the 2015 report actioned?

A. 2018 onwards to my knowledge however in reviewing the 2015 and 2017 reports it was apparent that some work although minor in nature seemed to have been addressed at local level by David Bratty and Jim Guthrie.

100. What is your own view of the findings of the 2015 report? Do you agree with it or not?

A. I am not technically qualified to comment on the findings of the report as they are written mainly due to lack of site and system familiarity. I was also not part of the audit process. However, the normal process would be that the person who requests the report would formally review the report for factual accuracy when it is produced and if necessary provide access to areas that had not been accessed if appropriate. This does not appear to have happened in this case. After review and agreement, a revised final draft would be produced and an action plan created. This appears to have never happened

101. DMA Canyon prepared another report in 2017 (document 30). What works, if any, recommended in the 2015 were carried out prior to the 2017 report?

A. The majority of works from the 2015 report were still not addressed in the 2017 report. The 2017 report was not received from DMA Canyon until 2018 just after work on completing the 2018 Risk Assessment commenced I believe

102. What happened with DMA Canyon in 2017 – discuss and provide 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. The DMA Canyon report of 2017 was actioned in 2018 when I became aware of the existence of these reports. The 2017 report was in the possession of Mr

Powrie and Mr Gallacher. I believe Mr Gallacher had commissioned the report but I am not completely sure. They were responsible for actioning the works reporting to the General Manager for the QEUH. I had no direct role in the report in 2017. In 2018 when I discovered there had been a 2015 report I asked had subsequent reports been produced and was advised there was a 2017 report – which had not been progressed as much as it should have been. The 2017 report was not issued by DMA Canyon until 2018 I found out but received no explanation regarding the delay.

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

A. It actually cannot be identified what impact the failure to address the report had on patient safety at the time. However, the report identifies a number of actions which required to be addressed and were deemed high risk by the assessors. These were linked to temperature control and these could impact directly on patient safety if temperature excursions impacted the microbiology of the system. Deadlegs were identified which again can cause microbiological implications of the system. It might have been expected that any new water system would have had these risks designed out. These issues should have been dealt with immediately due to the risk rating attached to them

104. We understand that Infection Control were only advised about the 2015 DMA Canyon Report in 2018. Why do you think this was the case? What happened?

A. I only became aware of the report in 2018, when Infection Control became aware of the report. The report was given to me by the Chief Executive, Mrs Jane Grant. Mrs Grant had obtained this from Mr Tom Steele, Director of HFS, who had identified its presence as part of the documents provided to HFS by Mr Powrie from his archive files from the QEUH/RHC. Until that time I was unaware of its existence.

105. In her statement Dr Teresa Inkster states ‘I don’t understand how the lack of such a risk assessment wasn’t identified in 2015 by those who had not seen

the DMA Canyon report. It would have been for someone in Mary Anne Kane's or David Loudon's position to satisfy themselves that the risk assessment had been done by actually seeing the resulting report.'

Do you agree with this statement? If so, why? If not, why not? 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. I agree with statement that the 2015 DMA Canyon report should have been acted upon once received prior to the handover of the building. However, the report was not circulated or acted upon at that time. My understanding is that neither myself, Mr Hunter, Mr Gallacher or Mr Loudon received this report when it was generated. My understanding is that David Loudon may have commissioned Ian Powrie to instruct the report at the time. No one in the Project Team or Multiplex identified that the report discussed had not been received at that time. In 2015, this was not my role and I assumed that all technical issues relating to the commissioning of the building were being taken forward by Mr Loudon and Mr Powrie. I also assumed that Mr Gallacher as Water Lead would have ensured this was in place with Mr Powrie.

a) What give you cause to think that 'David Loudon may have commissioned Ian Powrie to instruct the report'?

A. I don't remember commissioning it directly therefore the commission could only have come from the Project Team

b) Did you ever question in your role as Designated Person for water whether a L8 pre-occupation risk assessment had been carried out? Was this not within your remit?

This was directly within my remit I understand now and I should have. I did not question this as I assumed, wrongly that prior to handover all of these matters should be in addressed by the Project Team before handover to the operational team. I recognise in hindsight my misunderstanding in this regard and should have ensured that the operational team had much more involvement in

commissioning and hand over of systems directly .At the time due to resource levels I'm not sure how we would have resourced this .The requirement to do anything in commissioning was never made by the Project Team to the Operational Team in relation to any aspect of the systems .I believed up to handover the commissioning in all its components was the responsibility of the Project Team until handover based on how I was briefed in my role as Interim Director . I also believed given the operational and capital experience in the team and the fact that the Director of Estates & Facilities was also the Project Director that these matters were in hand

106. Dr Christine Peters also states that she asked for 'asked for risk assessments for waterborne infection in the QEUH and they were not forthcoming from the Project Management Team, Estates, or Mary Anne Kane.'
Did you provide the information requested? If so when and by what means? If not, why not?

A. As previously stated I followed a direct management instruction from my line manager in 2017 to direct Dr Peters to Dr Williams for access to water testing results from commissioning and in the period I was on long term sick I was not at work to respond to any requests if they were made to me .I did not see personally a Risk Assessment until 2018, which was shared via the Water Technical Group

Water incident 2018

107. 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. Prior to around March 2018 I was unaware of concerns specifically around water issues. When I returned from sick leave in August 2017 during my return to work phased program Mr Loudon advised that there was a whistleblowing case in which queries were being made by microbiology regarding the initial water testing and ventilation sign offs for the hospital and that, if approached, I was not to provide access to these but to direct the query to Dr Williams ICD. This concerned me as I had never had such a request made to me during my career by anyone . However, I had been unwell and felt that I required to comply with my direct line manager's instruction as my sick leave had been specifically linked to work related stress and I was fearful for my continued employment. I did not feel I could discuss this with anyone as I had been advised this had come straight from the Director of HR and CEO of the Board. From March 2018 when I became directly involved in the water incident via the IMTs, I did my best to get to the bottom of what had happened to the water system and to restore it to a safe condition. I tried my best in extremely difficult stressful situations to address the matter when I had the ability to do so.

g) Question for Witness: Describe your first involvement in the water incident, explaining when you first became aware of it and what matters were brought to your attention and by whom?

A. From March 2018 I started attending the IMTs after Alan Gallacher and Ian Powrie both advised me over the space of a couple of days that I should know there was an IMT running at RHC which may be a water incident .That the IMT had been meeting for a few months and that patient safety concerns were being expressed with possible patient bacteraemia from the built environment being considered as a potential .They felt I should start to participate directly in the IMT .They shared the date ,time and location of the meeting which I went along to

h) Question for Witness: What action did you take to address these issues and to restore the water system 'to a safe condition'?

A. I met immediately after the IMT with Ian Powrie and Alan Gallacher to go over what had been covered in the meetings I had not attended and to find out what investigation had occurred into the water system or the built environment up until then. I quickly realised that the Estates response did not seem coordinated with individuals doing actions and investigations and not reporting to each other their findings. I arranged for an Estates Meeting to occur routinely to address this. The Group then turned into the Water Technical Group with the addition of IPCT, microbiology and 3rd party specialists

i) Question for Witness: Who advised you it had come straight from the CEO?

A. David Loudon

108. 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.

a) Refer to IMT bundle, Bundle 1, Document 13, Page 54:
Cupriavidus bacteraemia in ward 2A at the end of January 2018

(i) What do you recall of this incident/ issue?

A. I became aware of this in March 2018 when either Mr Gallacher or Mr Powrie escalated their concerns to me about the formation of an IMT in respect of this issue and that patients were implicated.

(ii) When did it begin?

A. The IMT notes indicate that there was a patient identified in ward 2A in January 2018 and that in February 2016 the Aseptic Pharmacy had been implicated in a positive case therefore the Aseptic Pharmacy had been reviewed when the patient in January 2018 was identified.

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

A. I am unaware of who first identified concerns regarding the level of patient bacteraemia in the area

(iv) What was your involvement?

A. I started to attend the IMT in March 2018. I linked in with Estates & Facilities to ensure that actions were being progressed in accordance with timelines and also fed back to the COO and CEO as requested.

(v) Were you asked by Ian Powrie or Teresa Inkster about replacing all the taps within Ward 2A? What did you do? Did you discuss this with anyone else? What was the outcome?

A. I was - At this time I was hesitant as I was not convinced about what tap we would fit that addressed concerns about flow straighteners. The Water Technical Group did a piece of work on taps available on the market. In the short term the taps were thoroughly cleaned and disinfected and put back in place. When an alternative tap was identified through the water technical group it was agreed to change these. This happened in January 2019.

b) Refer to IMT bundle, Bundle 1, Document 16, Page 63:
Multiple positive results Cupriavidus and now Stenotrophomonas, Dr Inkster states that the test results are from taps which have not been replaced in rooms 15 and 26. Shower head in room 12. At that IMT no cause for patient concern.

(i) What was done as result of this meeting and why?

A. Shower heads were removed and sent for testing to the labs. Disposable shower heads were fitted. Patients were not allowed to use water from the water system for any purpose to reduce exposure. Taps were disinfected.

c) Refer to IMT bundle, Bundle 1, Document 17, Page 66:

(i) Your involvement and what measures were taken?

A. I was in attendance and coordinated the efforts of the estates team to ensure that milestones were being met and procedures followed as instructed by the IMT.

(ii) Did you discuss this with David Loudon?

A. No he left in January 2018.

(iii) If you did not discuss it with David Loudon who then did you discuss it with?

A. Directly with the Chief Executive Jane Grant and via the Executive oversight group with Jonathan Best, Chief Operating Officer

(iv) Do you recall anything about how matters were managed?

A. I don't understand the question. The IMT ran as normal in terms of agendas and meeting content relevant to a serious infection issue. The focus of attention was on patient safety

(v) How were costs managed?

A. There was never an issue with costs. Forecasts were produced for works and supplies and flagged to Finance. No request for financial support was ever declined.

(vi) Who carried out the work?

A. Estates & DMA Canyon

(vii) How was this reported and managed?

A. Through the Water Technical Group with progress updates being made to the IMT, verbally when requested in meetings

d) Refer to IMT bundle, Bundle 1, Document 18, Page 70:

(i) As above, what was the outcome of this IMT, your involvement, actions and how you followed it up.

A. Point of Use filters were fitted, twice daily domestic services cleaning with a hypochlorite was introduced, no water was in use in the ward from the water system, temporary sinks were brought in. I followed up with the Estates Team and Soft FM on sourcing products, arranging staff and development of timelines

that could be delivered. I discussed the situation on a nearly daily basis with either Mr Powrie or Mr Gallacher and sometimes with Colin Purdon

(ii) At this point did you have any concerns about Stenotrophomonas impacting patient safety?

A. At this point I was concerned about the range of organisms being found in the water system and linked to patient bacteraemia – I was not just concerned about Stenotrophomonas as a patient safety issue. I felt overwhelmed having to deal with a rapidly evolving and unknown scenario with requests for information and solutions being made from every area of the NHS GGC organisation and SG as well, with little time being given to identify solutions and problem solve This created an additional stress added to trying to identify how the water system was contaminated, how this could be addressed and maintaining day to day operational safety .I was also still expected to fulfil my range of responsibilities across the wider Board area on a range of subjects which was extremely stressful

(iii) Refer to Estates Team Bundle, Bundle 12, Document 121, Page 911; how does this link to the IMT? Was this as a result of what was being discussed? What happened following this email?

A. This is a copy of an email I sent to Ms Rankin following discussion with Mr McLaughlin, HFS and Mr Powrie regarding the installation of the Horne taps at the QEUH. This was at the time when this was first raised with me by Mr McLaughlin, who advised me that GGC had been advised not to install the taps and had chosen to do so. These were the taps in ward 2A. I was trying to gather background information and find out who would have a copy of any documentation relating to this. I had not been involved in this decision making process and Mr McLaughlin and Mr Powrie had two different views on what had been agreed. Following this email Mr Powrie was able to source the information and shared this with me. The situation was as Mr Powrie recollected this in that a meeting had been convened with GGC, HPS and HFS to discuss the situation and it had been agreed that subject to a maintenance program being in place

for the flow straighteners the taps could remain in place. Work then commenced on the disinfection of the Horne taps and the development of a robust flow straightener replacement program.

e) Refer to IMT bundle, Bundle 1, Document 19, Page 75:

(i) As above - the fitting of water filter – discuss – why were these filters not on the taps initially?

A. Point of Use filters had not been used in GGC before – they were relatively new to the market place. No one in the team including microbiologists had experience of the product and there was some scepticism about the efficacy of the product due to the teams unfamiliarity with the product .Point of Use filters were rolled out on a prioritised basis through areas where the patient pathway would indicate that patients of high risk may be cared for .Locations for point of use roll out were identified by the microbiologists based on clinical assessment.

(ii) Do you have any knowledge of dosing the system with silver nitrate? How did this discussion come about?

A. I was not directly involved in this but I was aware of the use of silver nitrate in NHS GGC for routine water system disinfection. It was a commonly used product when there were positive microbiological counts. Discussions were ongoing on what disinfection products could potentially reduce the level of contamination in the water system

f) Refer to IMT bundle, Bundle 1, Document 20, Page 81:

(i) This was scored HAIIT red – why?

A. Due to the patient safety implications

(ii) What were the concerns?

A. Number and seriousness of condition of patients

(iii) You were asked to look at the historical water results during the commissioning of QEUH/RHC, what did you find out as a result? Did this concern you?

A. I found that standard testing of the system from a microbiological perspective had occurred – TVCs, Legionella and pseudomonas and been signed off by Dr Craig Williams although I could not physically find the document in which he advised positively he had done so. During the testing some positive TVCs and legionella were identified. The system was sanitised with Sanosil at the wrong dilution and returned positive counts again. However, this was rectified by Sanosil being used at the right strength. The system was signed off by Dr Williams and Mr Powrie as being fit for use once microbiological results demonstrated that the Sanosil had been effective .

(iv) You emailed on 26th March 2018 – (see Estates Team Bundle, Bundle 12, Document 124, Page 918) seeking information regarding the commissioning – did you receive a response to this? Did you do anything in response to this?

A. Yes, all documents received were shared with the Water Technical Group members and HFS.

(v) This was not discussed at the next IMT, why?

A. I think it was discussed at the water technical group. I don't know why it wasn't picked up at the next IMTs.

vi) Should this not have been picked up by the IMT? Who would have been responsible for ensuring that it was picked up by the IMT?

A. Yes, it should have been. I should have raised this or the Chair of the IMT who participated directly in the Water Technical Group. The Water Technical Group was not asked as part of the IMT agenda to provide regular updates. In hindsight I should have insisted that this was the case

109. Refer to Estates Team Bundle, Bundle 12, Document 125, Page 919 and Document 133, Page 938, what was the relevance of these document to the water incident?

A. This is a summary of ongoing management arrangements put in place to address the ongoing incident to Tom Steele, Director of HFS.

Taps

110. The use of Horne Taps was discussed in the IMTs relative to the water incident. IMT Bundle, Bundle 1.

Please confirm:

a) Your understanding of use of Horne taps.

A. Horne taps were fitted throughout the hospital after selection by the Project Team.

b) Who authorised the use of Horne taps?

A. Project Team

c) Why were Horne taps selected?

A. At that time, when selected, they were considered to be a low risk tap. The Horne taps had been implicated in an outbreak of pseudomonas in a Belfast Children's Hospital in 2012. The Horne taps were identified as having flow straighteners which had potential risks from growth of bacteria. As this evidence was emerging and before the guidance had been published the taps had already been selected and installed for the Hospital. After a period of consultation and discussion with HPS and HFS with the Project Team a consensus was reached that the Horne taps could be retained as the tap of choice , with the proviso that risks associated with taps should be mitigated through regular maintenance (periodic strip, clean, disinfect and reassemble).

d) What was your involvement, if any, in the decision to use Horne Taps - SBAR Bundle, Document 1, - please discuss your involvement and understanding?

A. I had no involvement and learned of this decision via documentation reviewed as part of the Water Technical Group in 2018.

e) Eddie McLaughlin and Ian Powrie have different views about the use of Horne taps – please explain your recollection of the use of Horne taps.

A. I was not involved in the decision making process so cannot comment on the detail or discussions to reach the decision that was made. However, Mr McLaughlin had brought the matter of the Horne taps to my attention at the Water Technical Group. Mr McLaughlin advised me that the Board had been advised by HFS not to fit the Horne taps but had proceeded with the installation. When I discussed this with Mr Powrie he advised me that the taps after discussion and consultation had been agreed to be fitted and produced the document agreed between GGC, HPS and HFS. The document described the risks associated with the taps and that the taps could be installed subject to a planned preventative maintenance being in place to reduce the risks associated with flow straighteners.

f) Who signed off on the use of Horne Taps after consultation with the Board standing Eddie McLaughlin's advice?

A. The advice given to me in the Water Technical Group by Mr McLaughlin which I pursued was factually incorrect. There had been a group that looked at the Horne taps and agreement reached that they could remain in situ subject to the planned preventative maintenance program. A letter was exchanged to this effect from HFS/HPS. I believe the Board project team members and the Chief Executive Robert Calderwood were involved in the process

g) At the time, were you aware of the incidents in Northern Ireland with Horne Taps?

A. Yes I was aware of the incident in Northern Ireland but not involved in the tap selection and subsequent review of that decision

h) If so, why did you decided to proceed with the installation of these throughout QEUH/RCH? What was the deciding factor?

A. I did not make this decision

i) Discuss Estates Team Bundle, Bundle 12, Document 121, Page 911, explain the situation and your involvement.

A. I contacted Ms Rankin to speak to her regarding any recollection or information she could share on the selection of taps for the QEUH after receiving two different views from them on the installation – this was before the document detailing the discussions and agreement was produced. I was trying to get an accurate picture of what had happened around the decision making process.

j) Refer to Estates Team Bundle, Bundle 12, Documents 127 and 128, Page 922, explain the situation and your involvement.

A. These emails were picking up on the installation and use of Horne Taps within QEUH. What I was trying to do at this point was to gather as much intelligence as possible on the taps, their use, their maintenance and any manufacturers guidance around them. This was being done to try to establish a clear picture of the risks associated with the Horne Taps to inform future decision making and risk management strategies for the Water Technical Group. I don't think I was able to attend the meeting when Horne attended.

k) Flow straighteners – when did you become aware that they were non-compliant with guidance? Were they non-compliant at handover? IMT Bundle, Bundle 1, Document 27, Page 114.

A. I learned of their noncompliance with current guidance in March/April 2018 when the discussions on the taps were occurring with Mr McLaughlin and Mr Powrie. On the basis of the SBAR it was known at handover that the taps were non-compliant but a decision was taken to install these with the proviso that

maintenance was put in place to minimise the risks associated with the flow straighteners.

l) Were new taps replaced in January 2019? If so, why were they replaced? Was the replacement related to the use of chlorine dioxide? IMT Bundle, Bundle 1, Documents 29 & 30, Page 123.

A. Yes, they were fitted. The taps were replaced to reduce the risks associated with flow straighteners fitted in the Horne Taps in high risk areas as part of the work completed by the Water Technical Group. Replacement of the taps was not directly linked to the installation of chlorine dioxide dosing to the hospital. The Water Technical Group completed a large piece of work on the risks and design of a range of taps with a view to selecting a reduced risk tap for high risk areas through the hospital not just in ward 2A .

Water Technical Group

111. You sat as the chair to the water technical group (WTG) between 2018 and 2019.

a) What is the purpose of WTG?

A. The purpose of the Water Technical Group was to make dedicated space to looking at the water system out with the IMT. There were multiple hypothesis evolving and various workstreams emerging amongst the estates team which needed to be viewed holistically to understand what was happening with the water system. For the first few meetings estates met alone to discuss the ongoing work they were involved with. Teresa Inkster then accused the Team of meeting secretly in an attempt to cover up information which was absolutely not the case and the membership was extended to be considered a sub group of the IMT (but never asked to produce routine reports by the Chair of the IMT) with clinical team and microbiologist attendance as well as inviting external water experts to the group . This Group was attempting to identify the cause or causes of the water contamination, how to address this and to gather professional consensus to address patient safety concerns regarding the water

system. The Group did not however routinely submit notes of meetings or hypothesis papers to the IMT formally.

b) Why were you the chair? What experience and expertise did you have for the position of chair?

A. I was the Chair in my role as Interim Director, as this group was initially an operational estates group .I remained in Chair as no one else offered to Chair the Group or expressed that it should be Chaired by anyone else .It was not a sub group of the IMT directly but a group that emerged to address operational issues linked to the IMT .I had no experience of Chairing a Water Technical Group.

c) Was this within your remit as interim director of estates?

A. Yes

d) Who else was in the WTG, what were their names and their roles within WTG?

A. The Water Technical Group comprised of Ian Powrie , Deputy General Manager Estates, Alan Gallacher, General Manager Estates, Andy Wilson, Head of Maintenance QEUH then Colin Purdon, Site Estates Manager, HFS (either Mr McLaughlin or Mr Storrar), HPS (Annette Rankin), Teresa Inkster, John Hood (on occasions at the invite of Teresa Inkster), Ian Kennedy, Public Health, Mr Tom Makin, external water expert, Mr Tim Wafer, Chlorine Dioxide expert and external water expert, Dennis Kelly, NHS GGC Authorising Engineer. The Water Technical Group attendance /membership was not restricted to only these staff. On occasions when the practicalities of dosing the system were being discussed and operational assessments on impact and risk had to be considered, members of the clinical team joined the Group. Mr Peter Hoffman, Department of Health joined the group on occasions and Susanne Lee, external expert arranged by Teresa Inkster, attended the meeting. All members of the Group were asked to participate to ensure that a range of disciplines were involved in any decision making process around the water system at the QEUH.

e) Why was the WTG set up?

A. Explained above

f) What qualifications were required in order to be chair of WTG?

A. None were required or specified at this time. I did this in my role as Interim Director with technical experts advising.

g) Discuss focus of WTG – refer to specific WTG minutes and take the witness through these – what was the purpose – why was WTG required – what issues came to light as a result and what action was taken. What were the concerns of the WTG and how did this impact on patients? Refer to Estates Team Bundle, Bundle 12, Documents 127, 128, 129 and 130, from Page 922, to assist and confirm how these relate to issues before WTG.

A. The WTG was required as described in question 113

h) How did clinical staff and estates get along at these meetings?

A. The atmosphere was extremely difficult at times due to the pressure of the work, the scale of the problem being encountered and the lack of clarity on where potential sources of contamination were coming from in order to identify a solution .A lot of the work being covered was new to estates staff particularly around the microbiology of the system and the lack of familiarity with the organisms being discussed for which there was no guidance that could be referred to to support development of a strategy to address the problem technically. Continual press coverage and leaks to the press regarding the IMTs and the ongoing incident left the estates team feeling undervalued and being blamed for the incident. The volume of information being reviewed and gathered was huge for the teams alongside any other responsibilities staff had in relation to their wider remits. However, first and foremost on everyone's mind

was to find a solution to the issues being identified in the water system by the work the WTG were undertaking and to protect patient safety.

i) Refer to **IMT Bundle, Bundle 1, documents 39 onward, and any other IMTs as a result of WTG.** Go through and discuss issues – impact of patients – what was cause of these issues.

A. There were a number of actions investigated by the Water Technical Group which was a support group to the IMT but not a sub group of the IMT. The Water Technical Group consisted of a number of estates experts, external experts and internal estates and microbiology representatives. It met regularly and investigated all areas of the water infrastructure system which could potentially be contributing to contamination of the water system which may adversely impact on patients. This included deconstructing essential components of the water system such as taps, valves, sinks etc, reviewing temperature control records, incoming water quality and general use of sanitary products. A look back was also made on commissioning of the water system based on the documentation available to the group. These reviews enabled delivery of an action plan with tasks generated by the various pieces of technical work being undertaken. Some of the items identified could present infection control risks to patients. In reviewing the IMT notes for this it's my view that the detailed notes and reports produced for the Water Technical Group should have been shared with the IMT at the time to provide detail on work being undertaken. However, this was not the case and the work of the water technical group was not discussed in any level of detail at the IMT. There was also no space on the agenda on reflection for the Water Technical Group feedback. This could have been strengthened in the IMTs and perhaps assured clinicians that in fact there were personnel involved who did have the necessary experience in water safety management

j) Why was the work of the Water Technical Group not shared with the IMT? Why was space not made on n the agenda? Would it have been open to you or others to add it to the agenda? Dr Inkster has suggested in her oral evidence

to the inquiry during the hearings commencing 19 August 2024 that you as chair of the WTG might have come and report to the IMT.

A. In retrospect the Water Technical Group should have prepared formal reports on the work for the IMT. However, Teresa Inkster as Chair of the IMT was responsible for the agenda – water technical group update was never included in this. On occasions I was asked to provide updates on key issues but these were primarily around the time that a possible solution had been developed and the practical implications to the hospital of this. I felt there was no space in the IMTs for detailed discussion of the work of the Water Technical Group. The focus was on patient condition, service challenges, communication with parents, prescribing and so on. The IMTs were extremely stressful as a consequence of this

k) Refer to Estates Team Bundle, Bundle 12, Document 129, Page 926, why were NSS involved, guidance issued, actions taken.

A. The National Support Framework was invoked as part of the IMT. NSS participated in meetings and provided a professional opinion on topics being considered. National intelligence from NHS Scotland and the UK brought by HFS, in particular Mr Storrar, was very helpful in sharing his experience and industry case studies. Mr Storrar also was personally very supportive to members of the estates team who were struggling with the pressure of the situation and personal professional confidence crisis as a result of the constant demand for information and solutions from internal and external agencies as well as media scrutiny. The main focus of interacting with HFS was the review of all of the documentation submitted by Mr Powrie from his archive files which related to the building, design and commissioning of the water system as well as ongoing operational maintenance plans and actions. The analysis of this data by HFS which was reported to the WTG was exceptional helpful in identifying areas and components of risk which needed to be addressed and future actions taken on the water system.

l) Refer to Estates Team Bundle, Bundle 12, Document 131, Page 930, explain the background, your involvement, the purpose, guidance issued, actions taken.

A. The WTG engaged with a number of national water experts to obtain support and expertise on the complexities of water systems, outbreak management and technical solutions, Susanne Lee was one of the individuals engaged with. Her engagement was arranged by Teresa Inkster. Ms Lee attended site, came to a couple of meetings and produced this report. Teresa Inkster pulled together an outline action plan based on the input from Ms Lee. The WTG monitored progress until it was complete. There was no further interaction with Ms Lee. Apart from attending the WTG as described above Ms Lee did not respond to any queries or questions except via Teresa Inkster. My role as WTG Chair was to keep momentum going in the Group on the range of actions being generated

Review of Issues Relating to Hospital Water Systems' Risk Assessment 26th September 2018
Refer to Estates Team Bundle, Bundle 12, Document 134, Page 943.

112. You commissioned this report – what was the background to this.

A. I commissioned this report to ensure that there was an accurate picture via a risk assessment of the water system. This included ensuring that there was a current position on any outstanding risks highlighted from the 2015 and 2017 reports which were still outstanding. I wanted an up to date report for factual accuracy. The 2017 report had not been received by the Board from DMA Canyon until around April 2018, despite it being commenced in September 2017.The 2018 report had been commissioned before the 2017 report arrived.

113. Why did you commission/order the report? What issues prompted the instruction of this report?

A. See 114

114. What concerns, if any, did you have about the water system?

A. I had concerns about the water system; there was an ongoing IMT examining patient infections and a Water Technical Group running to identify what actions were required to address potential contamination of the water system, where this may have come from and what could be done to address this as quickly as possible due to patient safety concerns. I was personally very concerned about the risk to other patients receiving care in the hospital, but particularly in Ward 2A and 2B.

115. When did these concerns arise? Was anyone else in estates concerned? Why?

A. My concerns arose around March 2018 when Mr Gallacher or Mr Powrie advised me that there was an IMT running at RHC regarding patient bacteraemia which may be directly linked to the water system which we had not been familiar with up until that point and which they felt was very serious. The IMTs had been running for a few months before this matter was escalated to me by them. No concerns were raised by the local management team.

116. What was the impact on patients?

A. Patients were being reported as being adversely impacted by infection which could emanate from the water system or the environment.

117. Did you flag/ raise your concerns with anyone?

A. Everyone was aware of the situation due to the IMT but I did advise the CEO that I had started attending these and was concerned about the situation when we met for our 1-1. I also expressed concern about the operational environment of the ward requiring improved controls from an infection control perspective with papers being pinned to walls, shared toys and play areas being in use, poor toy cleaning arrangements etc. which I had observed in a visit to the ward. I felt these needed to be addressed. This was addressed at ward level after my discussion with the CEO.

118. What happened in response to the report?

A. The 2018 report was worked through as an action plan and risks addressed and closed out via the WTG. This included any outstanding issues from the 2015/2017 reports contained in the 2018 report and the completion of a gap analysis being undertaken by Mr Gallacher of the three reports. Mr Gallacher then coordinated the close out of the actions from all three reports

119. Did you escalate any matters arising from this report? If so, to who, and if not, why not?

A. The report was discussed in the Water Technical Group and the Executive Water Group led by Mr Best which met frequently and was a route to escalate any issues as they arose.

120. What works, if any, were carried out in response to any findings in this report?

A. There were a number of works completed to address items on the report such as removal of any deadlegs identified, removal of flexi hoses, replacement of flexi hoses, modifications to valves, temperature control etc. All of the findings in the report were completed through time.

Tap Water- Ward 3C – 2019

121. What were the issues in relation to tap water?

A. I do not have any recollection of this

122. What was your understanding and involvement with these issues?

A. I do not have any recollection of this

123. What action was taken?

A. I do not have any recollection of this

124. How were matters resolved?

A. I do not have any recollection of this

Ventilation - Commissioning and Validation

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

A. I cannot; this was not my role

a) Who was this carried out by?

A. I assumed Multiplex with the Project Team oversight and witnessing – that is normal practice with capital projects

b) Who signed off?

A. Frances Wrath confirmed that all systems were commissioned and validated as per the ERs to Mr Walsh, Infection Control Manager, GGC

c) To what extent, if any, did infection control have input prior to sign off? Refer to Estates Team Bundle, Bundle 12, Document 22, Page 177.

A. I don't know – this email indicates that ICT were not directly involved or the request for information would not have been made

(i) If so, who?

A. I do not know. This would have been normal practice.

(ii) When should this have been done?

A. This should have occurred prior to building handover

(iii) Were you involved?

A. No, I was not involved

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

A. I was aware of concerns around the isolation rooms and ward 4B. The isolation room locations, ACH's and pressure regimes were unclear and there was a number of clinical teams including ICT trying to understand what facilities were in the hospital to address patient isolation requirements. The easiest way to do this is to ask for the commissioning, validation and specifications of the rooms. In relation to ward 4B I was aware that the adult BMT move from the BOC was directly impacted by the identification of a sub optimal built environment for patient care particularly around ACHs and pressure regimes. This was a project that had been coordinated by the Director of Estates & Facilities and the CEO with Multiplex as a variation to the contract. I was not involved in the specification, the build or the commissioning and validation of the unit before patients moved. Mr Powrie raised with me the concerns described in the email and I tried to address this by contacting Multiplex and discussing it with Mr Loudon. As seen in the email Multiplex still maintained that ward 4B was fit for purpose and fully commissioned. In the case of the isolation rooms Multiplex confirmed that appropriate testing had not occurred and that this would be addressed.

e) Had you had sight of the commission and validation documentation prior to handover in 2015?

A. No, I did not this was not my role

(i) If not, who would have had sight of this commission and validation documentation?

A. Multiplex, Peter Moir, Frances Wrath from the Project Team

f) How important is SHTM guidance in relation to ventilation?

A. The SHTMs are the basis of the design of ventilation systems in healthcare, these are best practice guidance and provide minimum standards expected in healthcare

g) Was the QEUH/ RHC ventilation system SHTM compliant at the date of handover – if not, what was outstanding? Who was responsible to ensure that the ventilation system complied with SHTM?

A. I don't know. The Project Team were responsible for providing a compliant building and infrastructure

h) Refer Estates Team Bundle, Bundle 12, Documents 34, 34.1, 34.2, Page 244:

i) Can you explain the content of this email

A. I am forwarding an email to the Director of Regional Services and Dr Peters, received from Mr Powrie, containing Multiplex commissioning documentation and a list of isolation rooms. I don't remember the detail of this or how this came about, however, ward 4B was a ward that had been upgraded to accommodate the Adult BMT patients from GGH BOC after handover of the building.

ii) Please see the documents attached to the email – what are these documents and have you seen them before?

A. I don't recall specifically seeing these today but, if I posted on the email with this as an attachment, then I did see them. This is a copy of commissioning documentation of the ventilation and a list of the isolation rooms in the hospital.

iii) What does this relate to?

A. The isolation rooms in QEUH/RHC with Commissioning information

iv) Why was Professor Williams asking for this information?

A. Based on the email trail due to concerns raised about the built environment for patient care of Adult BMT patients.

v) When did Professor Williams ask for this information?

A. I don't know when it was first asked for

vii) When was this information provided to Professor Williams?

A. I don't know but assume the attachments went with the email as they are referred to in the body of the email.

i) Discuss the concerns about Ward 4B. Refer Estate Team Bundle, Bundle 12, Document 30, Page 234 - What was the purpose of the SBAR?
Refer to Estates Team Bundle, Bundle 12, Documents 30, 31, 32, from Page 234, to assist with your answer.

A. The SBAR described the clinicians concerns in regard of the environment that Adult BMT patients were being asked to be nursed in after being assured that commissioning, validation and quality of the environment was of a high specification. The SBAR was highlighting risks to the patient safety if they remained in this location and that the BOC BMT Unit was a safer environment in the clinicians' view.

j) How does commissioning differ to validation?

A. Commissioning tests the system components to ensure it is working as designed and specified. Validation measures that the system delivers in the environment the design specification as claimed.

k) Was there a validation document to accompany this for handover?

A. I don't know

l) Was it not within your remit to seek assurance that validation had been carried out?

A. I should have specifically requested written confirmation from the Project Team that this had occurred. At the time I wrongly assumed it had occurred due to verbal updates from Ian Powrie and David Loudon.

m) What is the purpose of Commissioning and Validation (C&V)?

A. To ensure that there are safe systems in place which protect patient safety at all times linked to the built environment.

n) What are the consequences of it not being carried out? What concerns did you have, if any, that the QEUH/RHC had not been signed off without C&V?

A. There is a potential patient safety risk if it is not completed. I did not have concerns before handover as I was advised that commissioning and validation had occurred for all systems.

o) What concerns, if any, would you have if there were no C&V of the ventilation system?

A. That patient safety is compromised especially around microbiological contamination which can result in serious harm. The use of the areas should not have proceeded without the validation for specific groups of patients with infection

p) Why would no C&V of the ventilation system give rise to these specific concerns?

A. You cannot guarantee air flow in the area and there is a risk of stagnating air building up a heavier and heavier bio burden and microbiological load which can cause harm to the patient especially if patients are high risk.

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

A. I don’t know

127. Refer to Estates Team Bundle, Bundle 12, Document 47, Page 329:
This states that air permeability tests were not carried out to 36 isolation rooms:

a) Were you aware of this? Should you have been aware? If you were not aware, who would have been aware?

A. No .This was not my role .I should have been advised if the Project Team were aware of this before handover as we should not have opened the hospital without this being completed due to the patient safety risks.

b) What was the consequence of this?

A. Potential patient exposure to infection related organisms

c) Why did handover take place in these circumstances?

A. I do not know

d) What happened following this report?

A. The rooms were upgraded as a separate capital project by the NHS Estates Team. These were not completed until 2018. Mr Loudon and the Capital Team led on this upgrade.

e) What concerns, if any, did the contents of the report give you? Why did the report give rise to these specific concerns?

A. I began to doubt everything I was being told about the hospital and felt that the hospital should not have been handed over from this point.

Have regard to the following emails when considering your answers to the above: Estates Team Bundle, Bundle 12, Document 64, Page 498, Document 67, Page 515 and Document 68, Page 521.

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

A. None, although I was concerned when the HEPA filters were not fitted but assumed this had been an oversight and, after commissioning & validation, the filters had been removed ahead of patient occupation due to some contamination issue or for an operational issue by Multiplex and this was an oversight logistically.

129. Where was the documentation for C&V stored at that time?

A. I don't know – with the Project Team

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

A. No this was not my role

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? Would this not be part of ID remit?

A. No – The Project Director should have ensured this was in place and signed off by the ICD before any patients were transferred to the QEUH.

131. Where would the paperwork have been stored/ Who would have been responsible for it?

A. With the Project Team

132. 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. I don't know. The hospital should not have been opened to patients without validation. Only the CEO would have had the authority to make that decision but I doubt any CEO would make that decision if they were aware that a critical

system validation had not been completed due to the risks associated with patient safety.

133. Were you asked by microbiologists or Infection Control to provide information regarding the ventilation system and validation? Who was supposed to provide this information? If it was not provided, why not? What action was taken to ensure that information was provided – if it was not, what was done to escalate this? Who was responsible for providing this information?

A. I do not recall being directly asked for these. However, contained within the witness packs is an email I am copied into where Mr Peter Moir is asked by Dr Inkster for copies of the ventilation validation results. I respond asking that Mr Moir supplies these as failure to do so would result in a PR nightmare - meaning that these should be readily available and if not so they were required immediately. The adverse impact of not doing so would result in a loss of confidence in a new build hospital by staff, patients and the public. I did not follow up on this email and don't recall seeing anymore regarding this matter. I therefore assumed it had been addressed. If directly requested from me I would have directed them to Mr Williams or Mr Loudon in respect of the QEUH or Mr Powrie as Head of Maintenance. I don't personally have access to this data and need to sign post anyone looking for ventilation or water results to the appropriate Head of Maintenance.

a) To what extent, if any, does the ventilation system now comply with SHTM guidance?

A. I can't answer this

134. What documentation have you seen to confirm this?

A. N/A

135. What work was carried out before GGC took occupation?

A. I do not know

Ventilation system - general

136. What testing and maintenance protocols and regimes were in place? Refer to Estates Bundle, Bundle 12, Document 62, Page 448.

A. This is a commissioning document, not as described – there is no reference to protocols, testing etc contained within it

137. What concerns, if any, do you have relating to the ventilation? What concerns, if any, do you have relating to the water temperature? What concerns, if any, do you have relating to the movement within the water system? Refer to Estates Bundle, Bundle 12, Document 123, Page 916.

A. I was concerned about ventilation in the hospital due to the lack of filters being fitted at handover and the lack of understanding of the relevance of sharing data and documentation that was flagged in ward 2A –refer estates bundle document 35 and 37 .In this correspondence I was flagging to the Project Team that commissioning and validation information needed to be shared to allow the hospital to operate .If the areas identified as isolation areas did not meet the national standards which could be evidenced the hospital should not have been operational .I did not have access to the commissioning and validation data for water or ventilation to be able to provide it to the clinical teams .When I returned from sick leave in August 2017 and saw at that stage the request for information from the whistle-blowers, I could not understand why clear answers were not being provided on the commissioning and validation data to inform clinical decision making . When the CEO asked me during a 1-1 meeting around March 2018 when I became the Interim Director in 2018 what my biggest concern was, my response was the QEUH/RHC Ventilation as I did not feel that we had responded fully to the whistleblowing complaint[s] and I felt we needed to establish if the ventilation was compliant with national standards or not. This led to the appointment of an estates expert to come in to review the ventilation in the hospital in around August 2018. Water movement in the hospital post-

handover and prior to patient migration was a concern which was addressed by the employment of agency staff on nightshift managed by Soft FM to flush all of the water outlets on site

138. Was it possible to incorporate a comprehensive ventilation system into the QEUH/RHC?

A. It should have been however I was advised by Mr Powrie and Mr Gallacher that ventilation air change rates had been sacrificed to achieve BREAM excellent and that the Board had derogated Ventilation standards as a result. Operational Estates & Facilities were never consulted on this or advised of this until after handover to my knowledge.

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

A. I cannot, this is not my technical background

140. What are your thoughts about these ventilation systems that were used?

A. N/A

141. Refer to Estates Bundle, Bundle 12, Document 136, Page 950. Explain the concerns regarding latent defects and actions taken.

A. This was a list of items which had been identified as potentially not meeting national guidance or standards for the ventilation systems in the hospital. GGC were trying to address this via the latent defect contractual process and to obtain more detailed design information. I was not by this stage involved in taking this forward.

Specific events in relation to ventilation system

142. Can witness recall any specific events in relation to ventilation?

For example:

a) 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 recall visiting ward 2A with Mr Powrie on one occasion when he showed me how the ceilings were not compliant with national standards in the area, particularly the light fittings and trunking not being sealed. He advised me that he would coordinate with the Project Team the sealing of all of the rooms affected. Mr Loudon and Mr Powrie personally dealt with wards 2A/2B

b) Lack of HEPA filters and general concerns ward 2A/B refer to Estates Bundle, Bundle 12, Documents 35 and 37, from Pages 263 and 275. Detail how the issues managed, what was your responsibility, outcome.

A. I was copied into an email trail between clinicians, Project Team and Estates and Facilities staff. Much of my role as Interim Director was about facilitating things – in an attempt to facilitate the requested information from the Project Team to inform the clinical team I requested this was shared at that time. I was trying to emphasise that, if this data was not produced, the hospital would require to withdraw care provision from these areas. If this was the case this would result in scrutiny from a range of sources which would have a negative impact on patient care, public perception and the Board and NHS Scotland's reputation. I did not understand why the information was not handed over upon request. I left the Project Team to conclude this. In relation to ward 4B correspondence, I was copied into an email chain between Multiplex, Estates and the Project Team, from which it was clear to me that Mr Powrie was trying to ensure that Multiplex complied with national guidance. The technical advisor was not responding as I had expected in terms of tone and content, however, it had become clear by this stage that Ian Powrie had not been treated well by the Project Team, Multiplex or the Technical Advisors during his secondment and that, when he provided input, he appeared to be dismissed or ignored on many occasions .In an effort to support him I wanted it to be clear to the Project Team, Multiplex and the Technical Advisors that the national guidance required to be fully complied with and that the Boards Authorising Engineer for

Ventilation needed to be involved in signing off the wards' compliance. This was the extent of my involvement in this.

c) Refer again to Estates Bundle, Bundle 12, Document 35, Page 263, what specific concern could result in a 'PR nightmare'? Why was it described as a 'PR nightmare'?

A. In my opinion, if the evidence could not be provided and supplied to the clinical teams on commissioning and validation, the hospital should not have been in operation. This was the newest, largest hospital in Europe at that time into which patients had transferred. If patients should not have been in the hospital, this would have resulted in an intense level of negative scrutiny and a loss of reputation and public trust for the Board and the NHS as a whole. I could not understand why the information requested was not being simply provided, that is why I said this would be PR nightmare.

d) Dr Brenda Gibson refer to Estates Team Bundle, Bundle 12, Document 18, Page 144.

A. Refer response 145 b

e) Air permeability tests not carried out refer to Estates Team Bundle, Bundle 12, Document 47, Page 325 - Capita NEC3 Supervisor's Report (No 53) - dated September 2015.

A. I had no involvement in this and did not have access to the NEC3 Supervisors reports

f) Issues with rooms 18 & 19 Ward 2A Estates Team Bundle, Bundle 12, Documents 67 and 68, Page 515.

A. I do not remember this happening. As can be seen from the email trail, effectively air was being lost from high risk areas in ward 2A. This is an example of the ongoing operational issues faced by the estates and clinical teams post-handover. These invariably fell to Mr Powrie in particular to liaise with the clinical teams and try to effect solutions with the Project Team. The impact of

such failures could impact directly patient safety and ultimately the continued provision of clinical services from the area. The escalation process appears to have been followed in this case with Mr Loudon and the Project Team being directly involved .

g) Dr Christine Peters raised issues with the air change rates in Ward 2A.

A. The email trail contained in these documents indicates there were significant issues with the ventilation in the area at this time and that solutions were being developed to address these. Mr Loudon led on this work. I was not directly involved in this at the time.

h) Issues detailed in Estates Team Bundle, Bundle 12, Documents 94, 95 and 96, from Page 780.

A. I was not involved in this

i) Issues detailed in Estates Team Bundle, Bundle 12, Document 104, Page 813.

A. I have never seen this document

j) Any other issues/ incidents not mentioned above.
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) Were any external organisations 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) 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?
Write your answers in the relevant answer boxes above.

A. I am sorry I do not remember

Ward 4B

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

A. My involvement was only being copied into some emails, especially when Mr Hunter was involved. Mr Loudon led and managed the ward 4B upgrade personally with Multiplex, Mr Powrie and Mr Hunter. I was not directly involved at this time. A prestart meeting for Capital Projects is normal procedure. It allows all parties impacted by the Project – usually IPCT, Clinical Team and Estates & Facilities a final opportunity to review the scope of works, timelines and work plans associated with completing the work

Refer to the following when answering:

a) Estates Team Bundle, Bundle 12, Document 71, Page 537
b) Estates Team Bundle, Bundle 12, Document 72, Page 637
c) Estates Team Bundle, Bundle 12, Document 97, Page 788
d) Estates Team Bundle, Bundle 12, Document 115, Page 878 - why was there ‘pre-start’ meeting – what was the issue with this?

144. Involvement and knowledge to HAI SCRIBE – what was this and what was the issue – refer Estates Team Bundle, Bundle 12, Documents 117 and 118, from Page 890.

A. I was copied in for information to these emails – I had no direct involvement in the Project at this stage. This was led by Mr Loudon with Mr Powrie and Mr Hunter directly.

Decision to close wards 2A/B and move to 6A and 4B

145. Discuss the issues surrounding and leading up to the decant of patients from Ward 2A in 2018.

a) What was the lead up and background to this refer to Estates Team Bundle, Bundle 12, Document 133, Page 938?

A. The decision to decant Ward 2A was pursued by the clinical team. They felt that the environment was not safe for patients. This resulted in discussions occurring within the clinical team management structure up to Director level and the production of an SBAR around the risk associated with providing patient care in the area. I never saw this document and was not involved in its collation. It was however referred to in the Ward 2A IMT, which is how I was aware of it. There were significant works required in ward 2A in respect of the water system (replacement pipework, sanitary fixtures etc) which the clinical team felt could not be completed whilst the patients were still in the ward due to the levels of dust that would be generated. A decant also provided the opportunity for a detailed review of all patient areas including validation of BMT rooms , minor aesthetic works ,sealing of joints etc)By the time this decision was taken it was also clear to the estates team that decanting the ward would provide opportunity to review the ventilation due to the access provided by patients not being in the area.

b) What was your involvement.

A. I attended 6 ward 2A IMTs with Estates & Facilities colleagues. My role was to ensure the estates and facilities teams met the timelines and work instructions issued by the IMT. I did not agree the scope of works for ward 6A; this was completed by others. The completion of work in ward 6A was also overseen by others. I was concerned that there seemed to be a consensus that moving the patients from ward 2A to ward 6A would provide a safer built environment for the patients. I raised my concerns as I wanted to ensure that it was clear that ward 6A was serviced by the same water system as ward 2A, therefore any

contamination would be replicated in this environment. I also wanted it to be known that the ventilation specification in ward 6A was the same as ward 2A for the same reasons. I felt my comments were dismissed and a course of action had already been determined by key individuals in the IMT that would not be moved from. I never saw a clinical risk assessment for the move but was aware that a patient pathway assessment had been completed – I have never seen this either. It was after my comments in this respect that I stopped being notified of when the IMTs were occurring and from this date only attended a meeting on 5/10/2018 and 26/10/2018. I felt dismissed for making the comments

c) What risk assessment and additional measures were put in place to ensure patient safety?

A. I do not know I have never seen them

d) What concerns, if any, did you have about where the patient cohort was being moved to? If so, why did you have these concerns? IMT Bundle, Bundle 1, Document 39, Page 169, you flagged concerns, were these ever followed up? Did you escalate these concerns? With the benefit of hindsight, what steps could have been taken to progress this matter further?

A. Refer responses above

e) Discuss and detail the works done to Ward 2A/B what was required to be done and why, what has been done and when the work was completed. Please include details of your involvement. Reference IMT Bundle, Bundle 1, to assist.

A. There were a number of agreed works to be completed in ward 2A regarding the water system including replacement of all of the sanitary ware in the unit, new taps, new pipework. New spigots etc. This was taken forward after the decant to ward 6A at which time I was no longer involved so cannot advise what work was finalised.

f) Any other relevant information.

A. N/A

146. Discuss the issues surrounding the ward 2A patients when in occupation of ward 6A. In particular, views you may have in respect of:

a) Chilled beams;

b) Gram Negative Bacteraemia

c) Water filters

d) Ventilation

e) issues/ testing/ escalation/ response/ IMTs/SBARs impact on patients

f) Patient communication

g) Internal escalation - HAIIT scoring

h) External escalation

A. I was no longer involved

Reports prepared by Innovated Design Solutions October 2018

148. Refer to Bundle 6 – Miscellaneous Documents – Documents 33 and 34, from Page 656.

These documents are feasibility studies regarding increasing ventilation air change rates within Wards 2A and 2B by Innovated Design Solutions.

a) Who commissioned these reports?

A. I think I did after this being suggested by Mr Powrie and Mr Gallacher that an independent 3rd party detailed review would be useful to identify potential risks and what could be done about them

b) What was the background to these reports begin commissioned?

A. Ongoing concerns in respect of ventilation in the hospital generally and in particular ward 2A

c) Why were these reports commissioned? What issues prompted the instruction of these reports?

A. The IMTs and reviews of documentation as part of the WTG

d) What concerns, if any, did you have regarding the ventilation system in Ward 2A?

A. That, despite being advised that the ventilation in the area had been addressed by the Project Team at handover, as time had progressed since handover there were still concerns that the ventilation in the hospital was not up to standard .By this stage I had little confidence in the information I had seen in correspondence from the technical advisors ,Multiplex and the Project Team and Director which was always defensive and contradicted anyone else's viewpoint about interpretation of guidance

e) When did these concerns arise? Was anyone else in estates concerned? Why?

A. Yes, Mr Powrie and Mr Gallacher were concerned. Mr Gallacher suggested that a review and feasibility study should be completed in ward 2A due to the information that had come to light in respect of the move into ward 2A at handover in connection with the ventilation .It was also being informally considered if ventilation may have played a part in patient safety concerns .I agreed that we should complete all investigations possible in the area to resolve patient safety concerns

f) What was the impact on patients?

A. The potential impact on patients was an infection risk

g) Did you flag/ raise your concerns with anyone?

A. These were discussed in the IMT and I had already raised my concerns about ventilation directly with the CEO and engaged an estates professional to start to review ventilation

h) What concerns, if any, did you have regarding the ventilation system in Ward 2B?

A. That the specification may not be right for immune compromised patients

i) When did these concerns arise? Was anyone else in estates concerned? Why?

A. As the IMTs progressed and patient pathways became clear

j) What was the impact on patients?

A. Potential infection risk

k) Did you flag/ raise your concerns with anyone?

A. The Chief Executive and the Chief Operating Officer were aware of these concerns and the appointment of a 3rd party consultant to complete the work

l) What happened in response to these reports?

A. Mr Tom Steele took over the leadership of ventilation and these reports. I had no involvement in the project except to attend [redacted] meetings when scope of works to address the issues was being worked on initially.

m) Did you escalate any matters arising from these reports? If so, to who, and if not, why not?

A. No I no longer had involvement.

n) What works, if any, were carried out in response to any findings in these reports?

A. I don't know.

Cryptococcus

Refer to the Cryptococcus Bundle, Bundle 9 to assist.

149. Recall your understanding of the Cryptococcus infections in 2018:

a) What is Cryptococcus?

A. Cryptococcus is a is a fungal infection which normally comes from exposure to aerosolised pigeon droppings/faeces. Patients who are immunocompromised are potentially at higher risk than the normal well population.

b) Had you seen/ heard of Cryptococcus in a healthcare setting prior to QEUH.

A. I had heard of the risks of Cryptococcus over the years due to the high level of pigeons which inhabit Glasgow but particularly at the QEUH. The former Southern General Hospital had always had a significant pigeon population which exceeded levels seen in other areas of GGC.

c) What were the issues with Cryptococcus at QEUH? When did you first become aware of these issues? What happened in response to these issues?

A. I became aware of this at QEUH via an IMT when two patients were identified as having Cryptococcus, which one of my colleagues advised me was running (I cannot remember who advised me).

d) Discuss your involvement at the Cryptococcus Sub-Group Meetings - actions taken, internal escalation: HPS involvement.

A. I only attended one meeting on 14th February 2019 when Tom Steele, Director of Estates and Facilities could not attend.

e) What, if any, external reporting occurred?

A. I was not involved in this

f) PAGs/ IMTs/ AICC and BICC involvement.

A. I don’t know I was not involved

g) What steps were taken in response/ precautions put in place?

A. I was aware of measures being taken through discussion within the senior manager’s meetings of Estates & Facilities e.g. plant room checks, cleaning, pest control measures such as netting. These were also rolled out across other sites within the Board.

h) Did you read John Hood's report?

A. I don't remember the report being shared with me. I had not been involved in the discussions therefore I do not recall seeing the report. I also had no involvement in Estates by this time either in my role.

i) When did you read John Hood's report?

A. N/A

j) What observations, if any, did you make after reading John Hood's report? What actions were taken following the John Hood report?

A. I don't have any I don't remember being issued with a copy of the report.

k) What else could have been done? How could matters have been handled differently? What concerns, if any, did you have about how matters were dealt with?

A. N/A

Staffing and working environment

150. 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. Staffing levels were low at the point of handover. Some staff decided to retire and some staff left shortly after handover. Staff came primarily from the sites which were closing supplemented by some recruitment- particularly for the 24/7 shift system and the estates management compliment. Many staff were new to estates in GGC and all staff were new to the new QEUH/RHC. There was no site or system familiarisation due to the creation of a new team for estates and facilities occurring after the project led sessions occurred. The team had never worked together. At handover there were also significant challenges in trying to

decommission the existing buildings from which staff came, technically and in maintaining them, until patients physically transferred to QEUH/RHC.

151. Concerns if any about staffing following handover – were staffing levels appropriate to manage workload? Refer to Bundle 8, Document 40, Page 206.

A. Staffing levels were not appropriate to handle workload following handover. In 2014, an Estates Maintenance Strategy had been developed by the Head of Maintenance, Mr Powrie, and the Project Director/Estates & Facilities Director Designate Mr Loudon. This document described the intent of the maintenance strategy and the indicative budgets required to deliver this compared to the FBC calculations. This report (Bundle 8, Document 38, Page 172) clearly identifies that the assumptions made exclude any non-routine maintenance /including major services, HAI related matters as they arise, management structure to implement and extraordinary breakdowns. It identifies that budgets were reduced for staffing and supplies (12% or £0.448m for staff and £1.2m for supplies = 59%) to match FBC cost predictions. It identified that this could probably be managed in the first two years due to the defect and liability period and the assumption that in the first two years or so there would be no significant issues or levels of breakdown. This was not the case at handover. Immediately from the first day of handover the Estates Maintenance Team were not resourced to address the volume and type of work they were expected to pick up on an ongoing basis. It also became apparent that support to address many of the issues needed to come from the Estates team rather than the project team as demonstrated by the number of contractors on site who needed to be managed. At the time the staff who were there worked as hard and quickly as they could to make the opening of the hospital and patient migration achievable. Workload was handled on a daily basis by dynamic operational risk management amongst the team.

152. Was appropriate training in place for new and existing staff on using new systems and working within the QEUH? How did you ensure that new and current staff were appropriately trained? Refer to Estates Team Bundle, Bundle

12, Document 5, Page 57 - 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. At the time I was not fully aware of how poor the training provided was .This became apparent to me when working on documents for the Water Technical Group to try to gain a better understanding culturally of where the estates team was and what had happened to contribute to the ongoing challenges on site .I was aware at the time that sessions were being arranged and that staff could not be released from the sites for the training as staff still had their current base hospital duties and responsibilities to complete which made it nearly impossible to release staff to be trained . The document referred to is a signing in sheet for chilled water training – I later discovered most of the training provided was not practical training or system familiarisation. Most of the training was power point presentations and in this case that is what the training consisted of. Concerns were raised with me that we could not get staff to the sessions and keep the rest of the Health Board hospitals operational if staff were pulled from their bases. I agreed with Mr Powrie, Mr Gallacher, Ms Connelly and Mr Hunter that we would arrange further practical training from the system providers at the point of transfer of staff to allow the training to be completed and system familiarisation.

a) You advise that you were '*aware at the time that sessions were being arranged and that staff could not be released from the sites for the training as staff still had their current base hospital duties and responsibilities to complete which made it nearly impossible to release staff to be trained .'* What action, if any, did you take at the time to address this?

A. I discussed this with Karen Connolly, Commissioning Manager and Billy Hunter General Manager, South and Ian Powrie how we could address this moving forward. We agreed that sessions could be coordinated for staff moving forward with system suppliers that would provide this at times which suited staffing work profiles

b) Did you raise this as a concern with Mr Loudon? If so, what action did he take in response? If not, why not? Did you escalate this further?

A. I did not discuss this directly with David Loudon. However, Karen Connolly was directly involved and the Project Team as a consequence they were aware of the poor attendance levels. I did not formally escalate this

c) You '*agreed with Mr Powrie, Mr Gallacher, Ms Connelly and Mr Hunter that we would arrange further practical training from the system providers at the point of transfer of staff to allow the training to be completed and system familiarisation.'* Please confirm when this training took place. Were you satisfied that staff prior to patient migration became sufficiently trained and familiar with the system?

A. Training continued after opening the hospital. I cannot confirm exactly when and what training occurred. This was left for Ian Powrie and Billy Hunter to coordinate at local level. They both advised that training had been arranged and would continue with system suppliers as needed.

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

A. The whole management team was responsible for this at various levels. However, even if the staffing levels had been at the budget set by the Board (not impacted by long term sick/retirements/annual leave etc), the circumstances at handover would still have meant there was inadequate levels of staff to complete the volume and complexity of work required due to the number of system failures.

a) At the time, with whom did you raise these system failures? If you did not raise these matters, why not?

A. David Loudon was aware of the system failures due to the overlap with the Project Team defect period and he was aware of the staff resource issue as was the Chief Executive

154. Did you ever raise concern regarding staffing levels?

A. On several occasions the whole management team expressed concern verbally to Mr Loudon.

a) What follow up action if any, did you take with Mr Loudon? Did you escalate it beyond Mr Loudon?

A. I never escalated beyond David Loudon any subject I didn't feel I could as the Chief Executive and the Corporate Management Team were aware of the issues at the QEUH and the staffing resource position

155. 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. The culture in estates & facilities when the hospital opened was that managers worked excessive hours on a consistent basis to keep up with workload. This often would be 10-14 hours a day and sometimes working weekends as well .There was no work life balance for many of us on the team .In 2013 ,routinely in order to deal with our day jobs and the planning involved in the new hospital we had to start working many more hours than we had historically (these had always been in excess of our contracted hours in any case) .This frequently led

to 50 -60 hour weeks in the workplace and in some cases work being completed at home over and above this .As the opening approached, 60 hour weeks became the norm during the handover period and for several years after handover many of us worked 14-16 hour days and on occasion 6 or 7 days per week .In order to keep up with the Board's expectations of us as a team the only way to do this was by working longer days and working harder .This was extremely stressful ,exhausting and impacted many of our families . This was the expected culture at the time in the Board as senior managers you were expected to work as many hours as it took to complete the tasks required of you and to provide any information required of you at any time of day or night. There was no one to raise this with as a concern. In my view this was the culture in the Board at the time. When I had a period of long term sick leave due to work related stress I requested a compressed working week to try to limit the number of hours I could physically work while in work – at the same time I expressed concerns for my colleagues that this was now the norm. I was advised compressed weeks were not appropriate for senior managers who required to be in the workplace 5 days a week and that the workload was not going to change in the foreseeable future at the QEUH/RHC.

156. 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. Multiplex contractors on site dealt with snagging, defects, warranty issues. They did not pick up on any of the ongoing operational issues or day to day demands. The local estates team required with all jobs raised by the building users to identify if the issue was a defect /snagging issue and report this as well as trying to maintain services using paper systems with no comprehensive asset list or tagging provided to develop a robust CAFM. Commercial third party providers were used by the Estates Team to supplement staffing levels when required. It would have been impossible to keep the hospital operational without using external contractors.

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

A. It was all I knew. I had never worked in any other organisation than NHS GGC since I left school. Over the years and as I achieved promotion more was expected of me in terms of pace of work, availability outside work hours and volume of work. This changed over the period from 2010 when the organisational change occurred to create a single Health Board. As the roles became bigger for posts the ability to manage detail and volume of information became extremely challenging. In my case this detrimentally impacted my health both on the short term and still to this day

158. Describe the handover process – did it run smoothly or not? What concerns, if any, did you have in the run up to handover? What matters did you feel went to plan and what, if any, matters, had not gone to plan?

A. The handover was not smooth. The only thing that went to plan was patient migration dates were complied with. The HR transition of staff went well which was a very complex piece of organisational change impacting hundreds of estates and facilities staff. The range of issues described throughout this questionnaire demonstrate that it did not go to plan and that the estates and facilities teams were persistently under pressure due to the failings of the building and the contractual arrangements.

159. NHS GGC took handover from Multiplex earlier than initially contracted for – what did you think about this. Why did it happen? Was the early handover appropriate in the circumstances? Please explain why it was appropriate or not.

A. This was not something I was involved in. I was advised that handover would be earlier than anticipated at the same time as everyone in the Board. I do not know why handover occurred early however in the circumstances I do feel that the time constraints of an early handover may have been a major contributory factor to the range of issues then encountered. More time could have been spent addressing the issues found at handover before occupation by patients.

160. In 2019 a Stephanie Dancer began working as a microbiologist at QEUH:

a) Had you ever worked with Stephanie Dancer previously?

A. Yes, in the late 1990's/early 2000's.

b) Describe your working relationship with her at QEUH

A. I did not work directly with Dr Dancer at the QEUH. My understanding was she was working as a locum supporting Microbiology.

c) Did you ever raise any concerns regarding QEUH with her? If so, what?

A. No, I did not raise concerns directly with her. I do recall speaking to her whilst waiting for Dr Inkster, in a social manner. I probably did say that there had been numerous issues at the QEUH/RHC since it opened and that I had raised this when I came back from sick leave. About 10 days later an FOI was received asking for copies of documentation exchanged between myself and SG/HFS/Senior Managers on concerns at the QEUH/RHC.

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

A. The estates team in particular worked as hard as they could and as many hours as they could to maintain services. They were not recompensed for this by the Board and the Working Time Regulations were routinely breached by managers in particular. The estates team's sole focus was on providing a functional hospital for patients which was safe. The situation they were faced with was untenable; the hospital had multiple serious defects which directly impacted safe clinical care which were repeatedly dismissed by the Project Team, Technical Advisors and Multiplex. The estates staff were made to feel that their opinions were worthless and, at best, that they were incompetent in the interpretation of guidance. The water incident itself was a new fast moving, rapidly evolving situation of which none of us had any experience and for which there was no guidance. Inadequate resources and training issues/competency of staff are still the number 1 risk identified in NHS Scotland by the Scottish

Engineers Technical Advisory Group in their risk register .It is my hope that this public inquiry changes the built environment standards and resourcing required to maintain and manage effectively health care buildings and that the role the built environment plays in safe patient care is acknowledged professionally by clinical and management teams in the NHS on an equal footing with clinicians.

162. In being responsible for the operational delivery of estates and facilities within NHS GGC, what responsibility, if any, did you have to ensure that the QEUH/RHC site was fully operational for the delivery of estates and facilities?

A. Post-handover of the building this would normally have been my responsibility. However, in the case of the Project due to the two-year defect period and my understanding of my role at that time as Interim Director it was my view that Estates mobilisation and site readiness was the responsibility of David Loudon and Ian Powrie.

163. How, if at all, did this extent to ensuring that commissioning and validation of the ventilation and water system had been carried out?

A. It did extend to these areas however based on previous experience of capital projects and my understanding of my role at that time I believed this was the responsibility of the Project Team.

164. In respect of commissioning and validation please confirm the following:

a) Describe your role in the lead up to commissioning. What action, if any, did you take to ensure that the wards within RHC and the QEUH met the guidance requirements of SHTM.

A. I had no direct role in the lead up to commissioning. I believed it was the responsibility of the Project Team and in particular David Loudon as the incoming Director of Estates & Facilities to ensure that all guidance including SHTMs was complied with. I was never asked by the Project Team to take such a role

b) Describe what commissioning of the water and ventilation system took place prior to handover, and your involvement, if any.

A. I had no involvement in these.

165. Who was responsible for ensuring that commissioning of the water and ventilation system was carried out, and who signed off that it had been carried out? What role, if any, did NHS GGC have in respect of ensuring that commissioning of the water and ventilation system had been carried out, and who was responsible from NHS GGC for ensuring this had been done? What concerns, if any, did you have regarding commissioning and validation being carried out prior to handover?

A. The Project Team and David Loudon were responsible for commissioning the systems. NHSGGC through the Project Team should have ensured that the systems were fully commissioned and that documentation was available to demonstrate this against national standards. I had no concerns as I expected the Project Team to do this as there were very experience capital and technical managers in the team (Peter Moir and Frances Wrath)

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

A. I do not know who made this decision. An independent commissioning manager would have been a direct resource to focus on commissioning systems in accordance with healthcare requirements including ensuring relevant documentation was in place. I feel in hindsight that this role and clerk of works inputs (at a higher level than provided) would have improved the visibility of potential risks and provided the ability to address these as they were occurring

b) The Inquiry understand that no validation was carried out in respect of the ventilation system. When did you become aware of this? How did handover

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

A. I learned of this in Spring/Summer 2022. Handover of the hospital should not have been accepted without this in my view. The Project Team were responsible for this as part of the project. I do not know who specifically signed off on this as I never had any discussions on the terms of the contract at any time with the Project Team

c) Professor Craig Williams has given evidence to the Inquiry during the hearings commencing 20 August 2024 that the Project Team provided him with assurances that validation was carried out and had been done appropriately. How were the Project Team able to make these assurances given that validation had not be carried out in respect of the ventilation system?

A. They couldn't and shouldn't. I too believed this position when advised by David Loudon that the systems were all ready for handover

Declaration

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

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

Appendix A

A43255563 - Scottish Hospitals Inquiry - Hearing Commencing 12 June 2023 - Bundle 1 - Incident Management Team Meeting Minutes (IMT Minutes)(External Version)

A42959603 - Scottish Hospitals Inquiry - Bundle of Documents for the Oral Hearing Commencing 12 June 2023 - Bundle 4 - NHS Greater Glasgow and Clyde: Situation, Background, Assessment, Recommendation (SBAR) Documentation

A43293438 - Scottish Hospitals Inquiry - Hearing Commencing 12 June 2023 - Bundle 6 - Miscellaneous documents (External Version)

A43941023 - Scottish Hospitals Inquiry - Bundle of documents for the Oral hearing Commencing 12 June 2023 - Bundle 8 - Supplementary Documents

A47069198 - Scottish Hospitals Inquiry - Hearing Commencing 19 August 2024 - Bundle 12 - Estates Communications (External Version)

A47175206 - Scottish Hospitals Inquiry - Hearing Commencing 19 August 2024 - Bundle 9 - QEUH Cryptococcus Sub-Group Minutes (External Version)