

## **Scottish Hospital Inquiry**

### **Witness Statement of**

**Robert O'Donovan**

#### **Witness Details**

1. My full name is Robert O'Donovan.

#### **Qualifications**

2. My qualifications include a HNC in Construction Management, and an Irish Management Institute Leadership Certificate. I qualified as a mechanical fitter in 1992.

#### **Professional Background**

3. I began working at Mercury Engineering ('Mercury') in 1996 as a Project Supervisor. Mercury build and manage complex engineering projects and work across healthcare, pharmaceutical, data centre and semi-conductor sectors throughout Europe. I have since held the roles of Package Manager, Project Manager, Project Director, Operations Manager from 2017, and Director of the Healthcare Business Unit from 2019 to present.
4. I have over 30 years of experience in the construction industry and have had senior management involvement with several high-profile projects in the UK and Ireland including the New Royal Hospital for Children and Young People in Edinburgh, Queen Elizabeth University Hospital in Glasgow, the Bon Secours North Block Extension in Cork, and the New Children's Hospital in Dublin.

#### **Current Role**

5. I am currently the Healthcare Business Unit Director at Mercury Engineering.

## **SICK KIDS HOSPITAL PROJECT- EDINBURGH**

6. I first became involved in the Royal Hospital for Children and Young People, also known as the Sick Kids Hospital, in around May 2015.
7. The Sick Kids Hospital is under the control of NHS Lothian (NHSL). In February 2015, NHSL entered into an agreement with Integrated Health Solutions Lothian Ltd (IHSL) for the design, build, finance, and maintenance of a project to re-provide services from the Royal Hospital for Sick Children and the Department of Clinical Neurosciences in a single building adjoining the Royal Infirmary of Edinburgh at Little France (referred to below as “the Project”).
8. In February 2015, Mercury entered into a sub-contract with Multiplex Construction Europe Limited (Multiplex) (**A32431743 – Contract between HIS Lothian Limited and Brookfield Multiplex Construction Europe Limited – 2015 - Bundle 2, Page 858**) in relation to the construction of the Project for Mechanical, Electrical and Public Health (MEP) Services. The sub-contract consisted of the sub-contract agreement, the conditions, and the schedules, as well as the documents referred to and annexed to the Schedules.
9. My role was Project Director for Mercury. This involved managing a team of people including Project Managers (Mechanical & Electrical), Planning Managers, Commercial Manager, and Quality Manager. These Managers had teams of People working for them like Construction Managers, Engineers, Supervisors and Subcontractor Managers and Supervision. Within Multiplex, I mainly worked with Darren Pike (Project Director), Colin Grindlay (Mechanical and Electrical Lead), and Stuart Jackson (Project Manager). I was involved in the Project on a full-time basis from May 2015 to Oct 2017 and then more on a part time basis after October 2017, splitting my time between healthcare projects in Ireland and Scotland. The transition in the level of my involvement in the Project began in Q2 of 2017 as the workload began to wind down and I became an Operations Manager within Mercury. Declan O’Donovan and

Sinead Rogan were electrical project manager and mechanical project manager respectively and took over the all site-based responsibilities.

## **VENTILATION SYSTEM REQUIREMENTS - SICK KIDS HOSPITAL PROJECT**

10. Mercury's scope in the Project was limited to the installation only of a design provided by Wallace Whittle (WW), such design primarily provided in the form of Schedules, Layout Drawings, and specifications. Mercury had no design responsibility on the Project. In this regard, reference is made to the following provisions of Mercury's Sub-Contract with Multiplex:

- Sub-Contract: Fifth Recital
- Sub-Contract: Seventh Recital
- Contractor's Requirements Part Two: 2.0 Design Statement and Demarcation
  - 3. Air Conditioning and mechanical ventilation systems
  - MEP Subcontractor shall undertake: *"selection of plant and scheduling of equipment to meet design criteria, installation details to suit manufacturer's requirements. Final coordination and preparation of installation drawings"*
- 64. Specifications
  - MEP Subcontractor shall undertake *"Final co-ordination"*
- 70. Detailed design drawings
  - MEP Subcontractor shall undertake *"Final co-ordination and preparation of installation drawings."*

11. The installation of the ventilation system was to comply with SHTM 03-01 insofar as it was agreed with the relevant parties to the Project that it was required to do so.

12. The 'RHSC & DCN – Building Services Specification for Ventilation Systems' dated 1 October 2013 (**A35270871 – Re-Provision of RHSC and DCN at Little France Section 4.23 Specification – Building Services dated July 2014 –**

**Bundle 2, Page 145)** (“the 2013 Specification”) was prepared by WW and issued to tendering mechanical and electrical contractors.

13. Section 5.0 of the 2013 Specification states *“The Ventilation System shall accord with all appropriate Hospital Technical Memoranda, Codes of Practice and relevant British and European Standards and Appendix A”*.
14. As such, there was a general obligation to comply with the appropriate Scottish Hospital Technical Memoranda (SHTM).
15. Within the 2013 Specification, there were more specific obligations for parts of the ventilation system to accord with certain SHTM. For example, section U10 required that

*“Air pressure regimes for theatre suites shall be designed in accordance with the guidance provided in SHTM 03-1 employing wall mounted pressure stabilisers”* and section 520 states *“The ductwork shall be constructed as a complete system to provide the rated protection for stability, integrity and insulation when tested in accordance with SHTM 81 and BS”*.

16. The ‘Re-Provision of RHSC and DCN at Little France Section 4.23 Specification – Building Services’ dated July 2014 (revised August 2014) (**A35270871 – Re-Provision of RHSC and DCN at Little France Section 4.23 Specification – Building Services dated July 2014 – Bundle 2 – Page 145**) (“the 2014 Specification”) was prepared by WW and issued to Mercury prior to financial close of the Project. Part of this document (page 53 to 118) set out the ‘Specification for Ventilation Systems’.
17. The 2014 Specification states that the specification shall be read in conjunction with all other mechanical and electrical engineering services specifications and the Architectural drawings.
18. Under section 5.0 Applicable Standards, it states

*“All elements of the works shall be in accordance with the requirements of current legislation, regulations and industry standards unless otherwise stated.”*

19. The document then breaks down the specification for different parts of the ventilation system.
20. With reference to document ‘IHSL-XX-XX-SH-001’ dated 17 November 2014 (**A32477336 – IHSL-XX-XX-SH-001\_K - Bundle 13, Volume 4, Page 1235**) (Derogation Register), there were derogations from the SHTM and other standards proposed by IHSL and agreed by NHSL. Several of the derogations related to the ventilation system.
21. In terms of whether the design of the ventilation system should have complied with the SHTM 03-01, Mercury was not privy to the full suite of contract documents between Multiplex and IHSL or between IHSL and NHSL. However, I understand there was confusion stemming from details contained within the tender and contract Environmental Matrix (EM), which was inconsistent with the SHTM 03-01 and in contradiction with the Board’s Construction Requirements (BCR). Mercury were not aware of the detail – we were told that this was the issue. My knowledge in relation to this is not contemporaneous as Mercury built to a Multiplex / Wallace Whittle issued design.

### **DELAY TO COMPLETION OF THE SICK KIDS HOSPITAL PROJECT**

22. The originally scheduled date for completion of the Project was July 2017. A settlement was agreed between Multiplex and IHSL which extended the planned completion date to 9 July 2019, owing to matters and issues of delay that were not the responsibility of Mercury. Mercury were not part of any dialogue or agreement that took place between Multiplex and IHSL. No responsibility for this delay has ever been attributed to Mercury, noting Mercury completed our final account with MPX on 1 July 2019. The issues set out in the IOM Issues Log (**A41213193 – IOM Issues Log – 25 June 2019 - Bundle 2,**

**Page 68)** detailed further below, became known to the parties to the Project on 25 June 2019.

23. I understand that, in or around 1 July 2019, it was agreed by the relevant parties that the issues set out in the IOM report could not be corrected in a timeframe that would allow the hospital to open on 9 July 2019. My understanding is that the primary cause of the critical path delay to the Project was the significant remedial work that was necessary to the Critical Care ventilation system as the air changes being achieved did not accord with SHTM 03-01 (10 air changes per hour) and the cause of this being that the EM issued by the Employer to MPX / WW was not in compliance with that SHTM.
24. Any issues that were notified through Zutec (the project/document management communication platform) during the currency of the Project in respect of ventilation that were Mercury's responsibility were corrected. This was a live document updated weekly so there is no consolidated list of defects/snags. Attached is a list which was exported from Zutec on 17 September 2018. Any associated delay in remediating the notified defects was minimal and was not critical to the overall Project completion.

### **AS-BUILT VENTILATION SYSTEM – SICK KIDS HOSPITAL PROJECT**

25. In respect of the ventilation system installed at the Sick Kids Hospital, Mercury installed and commissioned as per the design provided by WW. The ventilation system installed was capable of performing as per the design which Mercury understood aligned with the Employers Requirements at that time. Based on the procedures carried out during the currency of the works, the system was accepted at Practical Completion by the Employer as being compliant in accordance with the Employers Requirements.
26. Practical Completion of the Mercury installation was issued by Multiplex on 22 February 2019 (**A34483196 – Practical Completion Certificate from Arcadis on Re-provision of RHSC and DCN – 22 February 2019 - Bundle 4 – Page 223**), noting that the certificate of practical completion was subject to certain

exceptions, which are listed on the certificate. This handover was validated and certified by the Independent Tester employed by the Employer. The noted exceptions did not include the ventilation system meaning that the ventilation system was practically complete i.e., installed as per the Multiplex design requirements for the purposes of the Project on 22 February 2019.

27. With regards to the air changes per hour aspect of the ventilation system, there was significant engagement between IHSL and Multiplex post completion and handover of the Mercury scope. I understand that this engagement related to conflicts between the client's specification documents (detailed above) and the effect of same on the system installed. Significant remedial works were undertaken by the client post-handover of the Project which, I understand, related, in part, to the ventilation system. Mercury was not involved in this work, nor has it ever been suggested that Mercury was in any way responsible or liable for the need for the additional works.
28. The Defects Liability Period (DLP) for the works deemed practically complete, which included the ventilation system, commenced on 22 February 2019. Mercury was provided with the IOM Issues Log on 28 June 2019 (**A41213193 – IOM Issues Log – 25 June 2019 - Bundle 2 – Page 68**) (the Issues Log was dated 25 June 2019). This Issues Log identified what it considered to be issues / changes with the design and certain parts of the mechanical installation. The issues log identified certain issues (issue 11, 18, 24, 29, 32, 33, 35, 40, 43 and 45) which were deemed to be Mercury's responsibility to correct. These were addressed and the issues which were not Mercury's responsibility to resolve, were resolved by other contractors.
29. Following the IOM Report, the issues identified were managed in accordance with the sub-contract and Mercury carried out certain works to the ventilation system. For example, the Mercury team arranged for the Theatre Canopies to be serviced in a number of theatres by Mercury's sub-contractors Medical Air Technology UK (MAT) and H&V to carry out Test and Balance works afterwards (noted below). I was Operations Manager (based in Ireland) and supported the team on the ground from there.

- 30 Following the completion of this work, H&V produced a report entitled 'Royal Hospital for Children, Edinburgh Theatre Air Change Rates & Room Pressure Verification' (**A38137161 – 1.5.21 RHC Edinburgh – Theatre Air Changes & Room Pressures – July 2019 - Bundle 2 – Page 845**). The testing in this report was carried out in the period 1-5 July 2019 and related to theatres 30 – 39. For each of the theatres tested, it demonstrated that the recorded air changes and room pressures were in excess of those required by the design parameters specified by WW and the SHTM 03-01 parameters referred to in the IOM Report.

### **REMEDIAL WORKS TO THE VENTILATION SYSTEM AT THE SICK KIDS HOSPITAL, EDINBURGH**

31. As noted, Mercury completed remedial works relating to its scope arising from the IOM Issues Log in or around July 2019. In addition to these remedial works, Mercury was instructed by Multiplex to carry out Air Handling Unit enhancement works on 16 October 2019 (See MPX Contractor's Instruction dated 16 October 2019 (**A46844995 – 117751250-05. MPX-CI-002857 Mercury – Bundle 13, Volume 4, Page 1319**) and Mr Vent quotation dated 22 October 2019 (**A46844997 – 117751362-06 Mr Vent quotation dated 22 October 2019 – Bundle 13, Volume 4, Page 1321**). The scope of work was developed by QNIS (supplier of the AHUs) and was additional to Mercury's original contracted scope. Mercury had a team on the ground at the Sick Kids Hospital carrying out these AHU works in the period from 21 October 2019 to 19 February 2020 who reported progress back to myself as Operations Manager for Mercury's Healthcare Business Unit, although I was based in Ireland at time. As set out in the scope of works document (**A46844996 – 117751385-04. Scope of works dated 14 October 2019 - Bundle 13, Volume 4, Page 1325**), these works involved the removal of inverters from inside the AHUs and the mounting on the external of the AHUs, the installation of isolators, the re-routing of the associated inverter cabling and installation of new cabling where required, continuity testing on new inverter/cable terminations etc.

32. In consideration of clause 5.2 'General Standards' of Mercury's sub-contract, the remedial and instructed works conformed to relevant statutory regulation, applicable recommendations, guidance, and good practice.
33. In the period between February 2020 – 23 March 2021, Mercury carried out no further direct works on the ventilation system, except for notified defects such as the replacement of the domestic hot water expansion vessels, works to the combined heat and power system, and the low temperature hot water expansion bellows etc.
34. Mercury was aware that there was significant engagement between the client and Multiplex in respect of remedial schemes, but Mercury was not involved in this.

**DECLARATION**

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

Signed: 

Dated: 22/02/24