SCOTTISH HOSPITALS INQUIRY

Royal Hospital for Children and Young People/ Department of Clinical Neurosciences

CLOSING SUBMISSION ON BEHALF OF NHS LOTHIAN (NHSL)

Hearings covering the period from the commencement of the Project to financial close

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1. INTRODUCTION

1. NHSL thanks the Inquiry for this opportunity to make submissions covering the period from the commencement of the Project to financial close.

2. It is not NHSL's intention to provide a commentary on all the evidence that has been heard or otherwise provided to the Inquiry. Counsel to the Inquiry have provided a Closing Submission (the "**CTI Submission**"). This has identified the issues arising from the evidence that appear to be of particular interest to the Inquiry. NHSL will therefore provide a response that focuses on areas of interest or concern to NHSL that arise out of the CTI Submission. In doing so, NHSL wishes to acknowledge the great assistance it has derived from the CTI Submission, albeit in certain respects NHSL will be inviting the Inquiry to reach different conclusions to those set out in the CTI Submission.

3. This response should not be seen as comprehensive statement of NHSL's position on the various points addressed in the CTI Submission. NHSL has provided various documents setting out its position, in particular:

    - NHSL's General Response Paper to the Inquiry's Provision Position Papers
    - NHSL's response to the Inquiry's Provision Position Paper 1: "The Reference Design utilised for the Royal Hospital for Children and Young People and Department for Clinical Neurosciences"
    - NHSL's response to the Inquiry's Provision Position Paper 2: "The Environmental Matrix for the Royal Hospital for Children and Young People and Department of Clinical Neurosciences"

- NHSL's response to the Inquiry's Provision Position Paper 3 (Volumes 1 and 2): "The Procurement Process for the Royal Hospital for Children and Young People and Department of Clinical Neurosciences"
- NHSL's response to the Inquiry's Provision Position Paper 4 on the Project Agreement

4. Accordingly, for a full understanding of NHSL's position, it is necessary to read this response in conjunction with these documents.

5. NHSL shall set out its submissions under the following headings:
    - Summary
    - Assessment of evidence
    - Procurement and Contractual Documentation
    - Status of the Environmental Matrix
    - Activity Data Base, Room Data Sheets and CEL 19 (2010)
    - Clinical Engagement
    - Interpretation of SHTM 03-01
    - Governance
    - Other Matters
    - Core Participants' Draft Submissions
    - Terms of Reference and Potential Findings and Recommendations

2. SUMMARY

6. NHSL intended the ventilation system at the new Hospital to fully comply with all relevant guidance, including SHTM 03-01. This is best practice guidance aimed at ensuring a safe and effective hospital.

7. Hulley & Kirkwood developed an Environmental Matrix on behalf of the NHSL. After the Project switched to the NPD model, Hulley & Kirkwood contributed to a statement that the reference design, including its Environmental Matrix, complied with SHTMs and HTMs.

8. The Hulley & Kirkwood Environmental Matrix was internally inconsistent. It specified in the guidance notes 10ac/hr for critical care, but the individual cells in the body of the spreadsheet specified 4ac/hr for critical care (except for isolation rooms).

9. NHSL's "brief" to tenderers was contained in the Board's Construction Requirements. These made it overwhelmingly obvious that Project Co was going to be required to provide facilities that complied with all relevant guidance, including SHTM 03-01.

10. The Hulley & Kirkwood Environmental Matrix was provided to tenderers as Disclosed Data for which NHSL accepted no responsibility. It was for tenderers, during the course of the procurement process, to produce their own Environmental Matrices to be included in the Project Agreement as part of the Project Co's Proposals.

11. In the context of a design and build contract, it makes no contractual sense to describe the Environmental Matrix provided to tenderers as a "fixed client brief" and that language was not used at the time. If it were a "fixed client brief", the Environmental Matrix would be fixing design features for which NHSL would have no responsibility under the Project Agreement.

12. Read fairly and in the round, there was no ambiguity or lack of clarity in the procurement and contractual documentation.

13. But even if there was any uncertainty or ambiguity around the status of the Environmental Matrix provided to tenderers, it was incumbent on the tenderers during the dialogue phase, and IHSL during the preferred bidder stage, to flag up any issues. They did not do so.

14. The tenders that were submitted confirmed that they were fully compliant with SHTM 03-01. There was, therefore, no uncertainty from the tenderers' perspective that full compliance with SHTM 03-01 was required.

15. During the preferred bidder stage, IHSL adopted and made changes to the Hulley & Kirkwood Environmental Matrix. However, prior to financial close, IHSL did not flag up to NHSL the internal inconsistency in the Environmental Matrix referred to above. It was for IHSL to satisfy itself that its Environmental Matrix complied with SHTM 03-01.

16. It was also for IHSL to ensure that its Project Co's Proposals met the Board Construction Requirements. Responsibility for any errors in the Environmental Matrix incorporated into the Project Agreement and the Room Data Sheets lay with IHSL.

17. Stewart McKechnie of Wallace Whittle was of the view that the Environmental Matrix was compliant with SHTM 03-01 in relation to ventilation rates in critical care. He was the only witness who was of that view. All the other witnesses, whether from an engineering background or not, recognised that there was an error in the Environmental Matrix that had gone undetected at the time.

18. The Project Agreement mandated compliance with "all applicable NHS Requirements", including SHTM 03-01 except "to the extent expressly stated to the contrary in the Board's Construction Requirements". The Environmental Matrix was not part of the Board's Construction Requirements in the Project Agreement. It could not therefore be considered to be a derogation from the requirement to comply with NHS Requirements. In any event, it is not credible to view isolated cells in the Environmental Matrix as amounting to an express statement of non-compliance with NHS Requirements, particularly in relation to a matter which has important implications for infection control.

19. At final tender, there were no derogations submitted by IHSL in their Schedule of Derogations in relation to their obligation to comply with SHTM 03-01 in accordance with the submission requirement C30. This is despite discussion and clarification during competitive dialogue where NHSL specifically requested that, "IHSL's Schedule of Derogations should include all IHSL's Derogations and IHSL should not assume that reference design related Derogations are already accepted"[1]. This followed earlier discussions during other competitive dialogue meetings where IHSL were made aware in general terms that, even if there was a non-compliance with the reference design, the onus was on IHSL to identify the non-compliance and proposed solution[2] and that "the

[1] See minutes of Competitive Dialogue meeting 5, 17 September 2013 (RD_0078, p67, para 4.1 and 4.18, submitted to the SHI on 22 September 2022).
[2] See minutes of Competitive Dialogue meeting 4, 26 June 2013 (RD_0078, p29, para 3.10, submitted to the SHI on 22 September 2022).

expectation from NHSL is that Bidders will develop the mandatory elements of the ITPD into a compliant solution."[3]

20. As at financial close no derogation was agreed in relation to IHSL's obligation to comply with SHTM 03-01 in relation to ventilation rates in critical care.

21. The proximate cause of the issues that arose around ventilation rates in critical care was not the values contained in certain cells in the draft Environmental Matrix provided to tenderers at the outset of the procurement process. Rather, it was the fact that IHSL through Wallace Whittle considered those ventilation rates to be compliant with SHTM 03-01.

3. ASSESSMENT OF EVIDENCE

22. The Inquiry is invited not to make any final findings on the period under consideration until it has been confirmed whether or not Brian Currie, NHSL's Project Director, is able to give further evidence in relation to the issues covered at the 2023 Hearing. Clearly, his further evidence, if available, will be of considerable interest to the Inquiry since he was closely involved in the Project throughout this period.

23. It may also be the case that certain evidence that has been given will be seen in a different light when the period after financial close comes under scrutiny. For instance, a suggestion that the Environmental Matrix was ascribed some elevated status during the procurement process may be seen to be unsupportable in light of how the parties conducted themselves after financial close. For instance, if there is no documentary evidence whatsoever of the IHSL praying in aid certain alleged statements made by NHSL during the procurement process about the Environmental Matrix being a "line in the sand", then the Inquiry may view with considerable scepticism the suggestion that such statements were ever made. That is particularly so in light of the recorded discussions during competitive dialogue as outlined at paragraph 19.

[3] See minutes of Competitive Dialogue meeting 4D, 3 September 2013 (RD_0078, p61, para 3.8, submitted to SHI on 22 September 2022).

24. NHSL observes that some Core Participants have included in their draft submissions matters that occurred after financial close in support of a particular position. If such material is referred to or relied on in their finalised submissions, the Inquiry is invited to disregard such material. It would be unfair for some Core Participants to be able to pray in aid material that others have deliberately not addressed, given that the clear scope of the hearings was not to extend beyond financial close. Indeed, during the most recent hearing, Lord Brodie declined to allow Mott Macdonald to ask a question of one of the witnesses about matters that post-dated financial close for that very reason.

4. PROCUREMENT AND CONTRACTUAL DOCUMENTATION

25. The CTI Submission expresses the view that there was ambiguity in both the procurement documentation and the terms of the Project Agreement. This part of NHSL's submission addresses that contention.

General

26. In the context of the large projects with complex contracts, it is unsurprising that there will be some drafting infelicities. The Supreme Court considered such a circumstance in the case of *In re Sigma Finance Corporation* [2009] UKSC 2. Lord Collins said this:

> "In complex documents of the kind in issue there are bound to be ambiguities, infelicities and inconsistencies. An over-literal interpretation of one provision without regard to the whole may distort or frustrate the commercial purpose. This is one of those too frequent cases where a document has been subjected to the type of textual analysis more appropriate to the interpretation of tax legislation which has been the subject of detailed scrutiny at all committee stages than to an instrument securing commercial obligations: *cf Satyam Computer Services Ltd v Upaid Systems Ltd* [2008] EWCA Civ 487 at [2]."

27. In NHSL's submission, the CTI Submission finds ambiguity where there is none by focussing unduly on certain limited elements which disregard the whole and thereby "distort and frustrate the commercial purpose" of the Project Agreement.

28. In making this submission, NHSL is not inviting the Inquiry to determine what, properly construed, the Project Agreement means. Rather, it is NHSL's position that, when read in context and in the round, the procurement and contractual documentation could not sensibly or realistically be seen as being ambiguous in the way that is suggested in the CTI Submission. In particular, the suggestion that NHSL might seek to derogate from published guidance and best practice by means of certain data cells in one excel spreadsheet without acknowledging and clearly explaining the purpose of the derogation does not bear the slightest scrutiny. This is especially so when it is recalled that SHTM 03-01 involves matters of fundamental importance, i.e. infection control. The suggestion is even more far-fetched when the document said to be the potential derogation is itself internally inconsistent (i.e. as between the guidance notes and some of the data cells).

Context

29. NHSL was obliged, midway through procuring the new Hospital on a capital-funded basis, to change course and procure it on an NPD basis. A fundamental aspect of the NPD model, for it to be effective in achieving the required accounting treatment, is the transfer of risk from the procuring authority to the contractor[4]. In the present case, that transfer of risk, other than for Operational Functionality, is clearly established front and centre in the Project Agreement at clause 12[5]. There can be no doubt about what the purpose and import of that clause is. It would require very clear and specific wording for that overarching position on risk to be subverted. No such wording has been identified. A few entries in a draft spreadsheet does not constitute the sort of express wording that would be required.

The primacy of guidance in the Board's Construction Requirements

30. The essence of the Board's Construction Requirements (the "**BCRs**")[6] was that NHSL required the new Hospital to comply with best practice and all relevant guidance, including SHTM 03-01.

31. For instance, at section 2.3 (NHS Requirements) of the BCRs, it was mandated that:

[4] See the oral testimony of Michael Baxter (p112, p133) and Susan Goldsmith (p50).
[5] The draft Project Agreement was provided to tenderers as Volume 2 of the ITPD.
[6] Volume 3 of the ITPD set out the BCRs which were to be incorporated into the Project Agreement, subject to any revisals made during the dialogue process.

"Project Co shall, in relation to all SHTM and all HTM (except HTM where an SHTM exists with the same number and covering the same subject matter): take fully into account the guidance and advice included within such SHTM and HTM; ensure that the Facilities comply with the requirements of such SHTM and HTM; and adopt as mandatory all recommendations and preferred solutions contained in such SHTM and HTM."

32. Similarly, section 2.4 (Minimum Design & Construction Standards) required Project Co to comply with "Good Industry Practice" and "NHS Scotland requirements".

33. In addition to these general requirements, the BCRs also expressly mandated compliance with SHTM 03-01 in numerous places:

33.1. At section 4.5.17 (Completion Requirements), "Project Co shall demonstrate how the proposals facilitate the control and management of an outbreak and spread of infectious diseases in accordance with SHTM 03-01 and SHFN 30."

33.2. At section 5.2 (Infection Prevention & Control), "Project Co shall ensure all aspects of the Facilities allow for the control and management of any outbreak and/or spread of infectious diseases in accordance with the following … Ventilation in Healthcare Premises (SHTM 03-01)."

33.3. At section 8.1 (Minimum Engineering Standards), "Project Co shall ensure that the design, construction and selection of components for the mechanical and electrical works comply with, including but not limited to, the following design reference documents … h) SHTM 03-01: Ventilation in Healthcare Premises".

33.4. At section 8.5.3 (Air Quality), "Particular attention shall be given to the risk of cross infection within the hospital / healthcare environment and shall be such as to minimise the spread of infection. Project Co shall demonstrate through submission of information to the Board as Reviewable Design Data for review by the Board in accordance with Schedule Part 8 (Review Procedure) and clause 12.6 of the Project Agreement, how the proposals facilitate the control and management of an outbreak

and spread of infectious diseases, and in particular shall comply with the requirements of SHTM 03-01 (Ventilation in Healthcare Premises)."

33.5. At section 8.7.8, "Project Co shall demonstrate how the proposals facilitate the control and management of an outbreak and spread of infectious diseases in accordance with SHTM 03-01, SHFN 30 and HAI-SCRIBE."

33.6. References to complying with SHTM 03-01 also appear at sections 8.7.21 and 8.7.22 of the BCRs.

34. The overriding importance of complying with best practice and all relevant guidance (including SHTM 03-01) could not have been made clearer. The Project Agreement itself at clause 5.2.4 mandated compliance with "all applicable NHS Requirements" except "to the extent expressly stated to the contrary in the Board's Construction Requirements".

35. Those drafting the BCRs even made express provision for the sort of inconsistencies that can arise in complex contracts to ensure there would be compliance with the most onerous standard. Section 2.5 (Hierarchy of Standards) of the BCRs establishes a hierarchy of standards in the following terms:

"Where contradictory standards / advice are apparent within the terms of this Section 3 of Schedule Part 6 (Construction Matters) and the Appendices then subject to the foregoing paragraph then (1) the most onerous standard / advice shall take precedence and (2) the most recent standard / advice shall take precedence. When the more onerous requirement is to be used the Board will have the right to decide what constitutes the more onerous requirement."

36. The primacy of the hierarchy of standards is reiterated in the BCRs at section 6 (Civil & Structural Engineering Requirements) and, significantly, at section 8 (Mechanical & Electrical Engineering Requirements).

Alleged ambiguity

37. Against all of this, the CTI Submission identifies certain elements of the documentation that is said to give rise to ambiguity. These are: (i) the definitions of "Environmental

Matrix" in the Volumes 1 and 3 of the ITPD; (ii) one sentence in section 8 of the BCRs; and (iii) the manner in which room information was provided to the tenderers.

38. In relation to the definitions, it should be recalled that Volume 3 of the ITPD was a set of BCRs that were to be incorporated into the Project Agreement, subject to any necessary revisals. The definition of "Environmental Matrix" in Volume 3 of the ITPD was therefore a placeholder pending development by the successful bidder of its own Environmental Matrix. This is what happened, which is why the wording of the definition of "Environmental Matrix" in the BCRs incorporated into the Project Agreement was changed so that it identified the Environmental Matrix that was produced by IHSL during the preferred bidder phase (the "**IHSL Environmental Matrix**"). This process was in accordance with submission requirements C8.2(x) and C8.3 included in Appendix A(ii) to Volume 1 of the ITPD which set out the requirement for the tenderers to produce their own Environmental Matrices as part of the tender exercise. That is why the definitions of "Environmental Matrix" in Volumes 1 and 3 of the ITPD do not use the word "draft": the Environmental Matrix that was to be incorporated into the Project Agreement was not to be a draft, it was to be the tenderer's own document incorporated into the Project Agreement as part of the tenderer's Project Co's Proposals (the "**PCPs**").

39. This also explains the wording in the first sentence of section 8 of the BCRs: "Project Co shall provide the Works to comply with the Environmental Matrix." This is a reference to the Environmental Matrix was to be produced by the tenderer and ultimately incorporated into the Project Agreement. It is <u>not</u> a reference, as is suggested at §214 of the CTI Submission, to the Environmental Matrix that had been developed by Hulley & Kirkwood and provided to tenderers with the tender documents (the "**H&K Environmental Matrix**"). Any suggestion that the terms of section 8 of the BCRs, by requiring compliance with the Environmental Matrix, gave rise to some sort of implied derogation from SHTM 03-01 cannot stand in face of the express words of section 8 itself, which stated that, "For the avoidance of doubt the hierarchy of standards and advice detailed in paragraph 2.5 shall apply to this paragraph 8."

40. The CTI Submission at §11 considers uncertainty arose out of section 2.5.3 of Volume 1 of the ITPD, which provided that, "The specific room requirements (the "Room Information") are detailed in a combination of the following documents". The first document listed is the

BCRs, thereby incorporating the requirement to comply with all relevant guidance into the Room Information. Among the other items listed are the Environmental Matrix, the Equipment Schedule, and the Operational Functionality elements of the Reference Design. However, the key part of section 2.5.3 is the second last sentence: "The Room Data Sheets will form part of the Bidders proposals." This makes it clear that the Room Data Sheets (the "**RDS**") were to form part of the PCPs rather than the BCRs. Furthermore, in the Project Agreement itself, the IHSL Environmental Matrix had the same status as the RDS and was included within Section 6 (Room Data Sheets) of Schedule Part 6 (Construction Matters). It is therefore clear that (i) the RDS and the IHSL Environmental Matrix were part of the PCPs, (ii) the PCPs had to comply with all relevant guidance, and (iii) all design risk (other than for Operational Functionality) associated with the RDS and the IHSL Environmental Matrix lay with IHSL. To the extent that the CTI Submission suggests at §191 that the BCRs included the (IHSL) Environmental Matrix, it is incorrect. The Project Agreement defines the BCRs as "the requirements of the Board set out or identified in Section 3 (Board's Construction Requirements) of Schedule Part 6". However, the IHSL Environmental Matrix was included as Appendix 3 to Schedule 6 (Room Data Sheets) of Schedule Part 6. It therefore formed no part of the BCRs.

41. This analysis is confirmed by the fact that the RDS and the IHSL Environmental Matrix were included as Reviewable Design Data at financial close. This makes it clear that they formed part of the PCPs[7] rather than the BCRs. It would be contractually incoherent to suggest that the BCRs could be Reviewable Design Data.

42. Subject to any further evidence to be heard from Brian Currie, it is submitted that his witness statement for the 2022 Hearing, in particular paragraphs 32 to 46 and paragraph 75, supports NHSL's submission that the clear and overriding requirement on IHSL was to design and build a Hospital which complied with SHTM 03-01: "Ultimately, irrespective of the error in the EM, Project Co (IHSL / Multiplex) had responsibility for the design. NHS Lothian were relying on Project Co (IHSL / Multiplex) operating the Project in accordance with the Project Agreement which included mandatory guidance SHTM 03-01 for ventilation requirements"[8].

[7] See 2023 SHI Bundle 5, p869.
[8] SHI Witness Statements Bundle for the Oral Hearing commencing 9 May 2022, pp201 – 231.

43. Finally, it should be noted that none of the witnesses suggested that the wording in section 2.5.3 had caused them any confusion.

The submitted tenders

44. If there was a lack of clarity in the procurement documents, that is precisely what the procurement process is there to address. Indeed, as set out at §19 above, IHSL did query the process for non-compliances within the reference design. IHSL was advised not to assume that any derogations from the reference design that they assumed to exist had been accepted by NHSL and that they had to develop any mandatory requirements into a compliant solution.

45. There was no evidence that during the procurement process any of the tenderers flagged up any of the issues that are now being identified, with the full benefit of hindsight, as possible areas of ambiguity in the CTI Submission.

46. Indeed, any suggestion that there was ambiguity in the ITPD/ISFT is not supported by the tenders that were submitted. It is clear from IHSL's tender that IHSL understood the ventilation system required to be in accordance with the relevant guidance, including SHTM 03-01. Reference is made to §§225 to 229 of the CTI Submission.

47. Bidder C, like IHSL, also understood that its tender was required to comply with the relevant guidance, including the SHTMs. It is, with respect, a non-sequitur to suggest – see §11 and §224 of the CTI Submission -- that, because Bidder C and IHSL responded to the ITPD/ISFT in different ways, that demonstrates that there was ambiguity in the ITPD and ISFT. All that it shows is that the tenderers decided to submit their proposals in different ways.

48. But there is a more fundamental point. It is clear that the H&K Environmental Matrix was inconsistent as between the guidance notes and some of the individual cells. That, at very least, should have prompted IHSL/Multiplex to raise such issues with NHSL. The reason they did not became apparent during the course of the hearing: Multiplex's engineering consultant, Wallace Whittle, was of the view that the H&K and IHSL Environmental Matrices accurately reflected guidance, including SHTM 03-01.

5. STATUS OF THE ENVIRONMENTAL MATRIX

49. The H&K Environmental Matrix was "Disclosed Data" for the purposes of the Project Agreement. As such, NHSL accepted no design risk for its content: see clause 7.1 of the Project Agreement. As noted above, there is no basis for suggesting that the H&K Environmental Matrix was somehow incorporated into the Project Agreement. Accordingly, there is no basis for arguing – as is suggested at §197ff of the CTI Submission - that "the Environmental Matrix is a specific and different requirement" which would amount to a derogation from SHTM 03-01. The error is to conflate the H&K Environmental Matrix with the IHSL Environmental Matrix. Quite simply, the H&K Environmental Matrix was not a contractual document and the Project Agreement is absolutely clear that any derogation required to be formalised through the contractual machinery.

50. The suggestion at §18 of the CTI Submission that the Project Agreement "reflected the unresolved status of the Environmental Matrix" is not accepted. This "unresolved status" only arises if the important difference between the H&K Environmental Matrix and the IHSL Environmental Matrix is not understood. The IHSL Environmental Matrix, like the RDS, was part of the PCPs. If Project Co wished to derogate from the BCRs, including the guidance mandated in the BCRs, it was for Project Co to identify the proposed derogation, either in terms of its tender or subsequently by means of the contractual machinery. Until any derogation in the PCPs had been agreed to by the Board, the obligation on IHSL was to design and build the new Hospital in accordance with the BCRs and the guidance mandated in the BCRs.

51. Some of the Multiplex witnesses, in their witness statements, ascribed a status to the Reference Design, and the Environmental Matrix in particular, that was not justified by the procurement or contractual documentation. John Ballantyne went as far as to describe it as "the Bible"[9]. However, in their oral evidence, these witnesses were unable to identify any particular basis for giving the Environmental Matrix this elevated status[10]. Perhaps more importantly, no contemporaneous material was produced to support the suggestion that,

[9] See §12 of Mr Ballantyne's witness statement; see also §§9 to 11.
[10] See, e.g., Mr Ballantyne's transcript at p12.

during the dialogue and preferred bidder phases, NHSL and its advisors had given particular weight to the contents of the H&K Environmental Matrix. Other issues around non-compliances with the reference design discussed during competitive dialogue were recorded in the Competitive Dialogue minutes. Had particular issues in relation to the Environmental Matrix arisen during competitive dialogue, the discussion would likewise have been recorded. In the absence of any such supporting evidence, the Inquiry is invited to have regard to the passage quoted from the case of *Gestmin SGPS (SA) v Credit Suisse (UK) Ltd* [2013] EWHC 3560 (Comm) at §30 of the CTI Submission. In particular, it is submitted that the recollections of these witnesses in relation to the Environmental Matrix may have been affected by viewing matters with the benefit of hindsight and with the benefit of having particular documents placed before them. To the extent that such evidence turns on what Mr Currie is alleged to have said[11], the Inquiry is invited to hold off reaching a concluded view until Mr Currie has had an opportunity to address such points.

52. The key piece of evidence surrounding the status of the Environmental Matrix was the fact that, on 3 July 2014, Ken Hall of Multiplex/IHSL, on behalf of Stewart McKechnie, asked for and received an excel copy of the H&K Environmental Matrix and that, thereafter, changes were made to it by Wallace Whittle. This signified the fact that it had become an IHSL document. That is why, in October 2014, the Board provided comments to IHSL on the IHSL Environmental Matrix[12]. Mr McKechnie's suggestion that the IHSL Environmental Matrix was 98% client brief and 2% IHSL's simply makes no sense[13], although he did accept that he took ownership of the document[14]. Guidance Note 1 of the H&K Environmental Matrix made it clear that, "This workbook is prepared for the Reference Design stage…" Thereafter, as the evidence demonstrated, it became an IHSL document for which IHSL was responsible. That the Environmental Matrix had to be revisited during the detailed design process is expressly stated in Guidance Note 5.

53. It should also be recalled that IHSL's tender document (Tender Package Deliverables – Building Services Deliverables Appendix 1.1.5/FT – Mechanical and Electrical services

[11] See Mr Ballantyne's witness statement at §13.
[12] See 2023 Bundle 4, p218.
[13] See Mr McKechnie's transcript at p111.
[14] See Mr McKechnie's transcript at p43.

dated 13 January 2014[15]), submitted as part of its final tender, stated at §5.9.7: "The ventilation systems to the Hospital are designed in accordance with Scottish Health Technical Memorandum SHTM 03-01. Ventilation shall be provided to suit both the operational and statutory requirements of the development." No reference is made here to the Environmental Matrix. Clearly, IHSL was proceeding on the basis that the design of the ventilation system had to comply with SHTM 03-01. The suggestion made by Mr Ballantyne that the word "generally" might have been inserted before the word "designed" highlighted the inconsistency of the Multiplex witnesses on this matter[16].

54. With the benefit of hindsight, it is accepted that NHSL may have been better served by not providing the H&K Environmental Matrix at all. However, having expended a considerable amount of money during the capital funded phase of the Project, NHSL understandably wanted to obtain some value from the work that had been undertaken, even if that only meant providing tenderers with a "starter for ten". The CTI Submission at §10 correctly states the position, except that NHSL received extensive advice on how the Reference Design should be communicated to tenderers. This can be seen in the multiple iterations of Mott Macdonald's "An Approach to Reference Design".

6. ACTIVITY DATA BASE, ROOM DATA SHEETS and CEL 19 (2010)

55. Considerable weight is placed in the CTI Submission on CEL 19 (2010) and the emphasis placed on the use of the Activity Data Base (the "**ADB**") as "an appropriate tool for briefing, design and commissioning". This text from CEL 19 (2010) can be understood in the context of a traditionally procured project; however, in the context of a design and build contract, it is less clear how it should be given effect to. It would be entirely inappropriate for the procuring authority in a design and build project to brief or design aspects of a building beyond what is properly set out in the employer's requirements.

56. It is not clear that this point is properly reflected in the CTI Submission. There appears to be an underlying assumption that, whatever the form of contract, it is for the client to provide a "fixed client brief"[17] that identifies ventilation parameters. The word "brief" has

[15] Bundle 6, p323.
[16] See p23 of Mr Ballantyne's transcript.
[17] CTI Submission at §172.

no technical meaning and cannot be understood except in the contractual context in which it is being used. That means that what is required from a client brief will inevitably vary depending on the nature of the contract in question. This is why NHSL make the fundamental point that, in the context of the Project Agreement, it makes no sense to describe the H&K Environmental Matrix as a "detailed and finalised brief"[18]. The BCRs were the brief, including the mandatory elements of the reference design (which did not include the H&K Environmental Matrix), the schedule of accommodation and the Clinical Output Specifications. The BCRs specified *inter alia* the guidance that was to be followed for environmental parameters. The suggestion that "it is not clear that by conclusion of the Project Agreement NHSL had provided an adequate briefing of their requirements for environmental parameters"[19] is therefore not understood. SHTM 03-01 defined the parameters.

57. In any event, in terms of CEL 19 (2010), use of the ADB is not mandatory: "If deemed inappropriate for a particular project and an alternative tool or approach is used, the responsibility is placed upon the NHSScotland Body to demonstrate that the alternative is of equal quality and value in its application." The short point is that, in the context of a design and build contract, specifying compliance with SHTM 03-01 is an alternative approach that is suitable to the contractual context.

58. More generally, NHSL has set out its position on the ADB and RDS in its "Narrative on the Activity Database (ADB) and Room Data Sheets (RDS)", which was submitted to the Inquiry on 3 February 2023. This Narrative explains in detail the genesis and development of the H&K Environmental Matrix. The Narrative explains how it was originally anticipated that Nightingale Associates would generate a full set of ADB information, but that the change to the NPD model, and the use of a reference design, changed that. What is clear, however, is that NHSL was aware of the ADB and chose to procure the Project as it did, with the inclusion of the RDS as Reviewable Design Data, on the best advice available to it.

[18] CTI Submission at §80.
[19] CTI Submission at §126.

59. As is noted in the CTI Submission at §70, the witness evidence demonstrated that the ADB is not without significant problems and that it does not necessarily reflect Scottish guidance. Furthermore, the evidence demonstrated that the use of environmental matrices was and remains commonplace because they are viewed as an important tool in circumstances where the ADB would generate a huge amount of documentation.

60. At §204 of the CTI Submission, it is suggested that, if the ADB had been used, the discrepancy between the values in critical care rooms, as compared with the Environmental Matrix, may have become apparent. This is not accepted. IHSL produced some RDS during the procurement process. These were produced using the ADB and were included as part of the Project Agreement. Even so, the RDS for critical care were not in line with SHTM 03-01. It is of note that the ADB template as at 2014 (being the 2013 revision) stipulated 10ac/hr for single bed isolation cubicles and 10ac/hr for multi-beds in critical care departments, but there was no ADB template for single rooms in critical care. This means that those responsible for IHSL's RDS either manually altered them from 10ac/hr to 4ac/hr or generated new RDS for single rooms in critical care with 4ac/hr. Given Mr McKechnie's views on how SHTM 03-01 should be interpreted, it is not surprising that the RDS for critical were produced in the terms that they were.

7. CLINICAL ENGAGEMENT

61. There is a recurring theme in the CTI Submission to the effect that more clinical engagement was required and would have brought the error in the Environmental Matrix to light[20]. This is not accepted.

Clinical Engagement with the Project

62. The Inquiry is reminded that, during the course of the Project, NHSL had a Project Clinical Director, Janice MacKenzie, who brought years of clinical experience to the Project Team. In addition, there was significant input from the nominated clinical leads for each department into the function and use of individual rooms and departments in terms of the clinical activities, layouts and equipment required to meet the clinical needs of patients[21].

[20] See §§7, 78, 83, 128, 131, 164, 308 and 309.
[21] See NHSL's Chronological Table of Clinical Input into the Design (2023 SHI Bundle 12, pp104 - 119).

Infection Prevention Control (**IPC**) specialists also provided input during the development of the design of the new Hospital[22], including on ventilation aspects within their professional remit.

Briefing Tenderers

63. In terms of briefing tenderers, the operational and clinical aspects of the Reference Design were contained in the Schedule of Accommodation, the Equipment Lists, the 1:500; 1:200 and 1:50 drawings and the Clinical Output Specifications (the "**COS**")[23]. The COS for critical care[24] clearly conveyed the clinical needs of the department, which required a "comprehensive critical care service" for all bed spaces. The relevant design guidance is referred to and there is nothing to suggest it should be departed from.

64. Tenderers could and did raise clarifications which required clinical input during competitive dialogue (and beyond)[25]. Ms MacKenzie confirms at §63 of her witness statement that "clinical input was sought when required and the NHSL Project Team would act as the conduit between clinicians and bidders."

65. There were, however, no queries from Wallace Whittle as to whether NHSL intended to depart from SHTM 03-01 for air change rates in critical care. Standing Wallace Whittle's interpretation of SHTM 03-01, as discussed above, such a query would not have arisen.

Design Development from Preferred Bidder to financial close

66. Nominated clinical leads and IPC had ring-fenced time away from clinical commitments to provide input into design development meetings with IHSL[26]. In general terms, there were three design development meetings per department over a 4-month period. IHSL (via Multiplex) could have required Wallace Whittle, as part of their supply chain, to be present at the design development meetings where they would have had direct access to clinicians, HFS and the wider Project Team, including Mott Macdonald, but they did not do so.

[22] See §§40 – 42 of Janice MacKenzie's witness statement.
[23] See §§17 – 30 of Janice MacKenzie's witness statement.
[24] B1 Critical Care, Clinical Output Based Specification.
[25] See NHSL Chronological Table of Clinical Input into the Design (2023 SHI Bundle 12, pp104 - 119)
[26] NHS Lothian Project Board Paper: Design Development from Preferred Bidder to Financial Close (PB_00116, submitted to SHI on 21 July 2022).

67. Wallace Whittle (via Multiplex) did seek and obtain additional clinical input prior to financial close, as and when it was required. An example of this is the HAI Scribe meeting on 13 January 2015, at which Multiplex, Mott Macdonald, an IPC specialist and the Project Clinical Director were all present. That meeting resulted in a query over what pressure regime was to apply in "single rooms with en suites" throughout the new Hospital. It is important to note that these discussions did not relate to single rooms in critical care, which do not have en suites and accordingly require a different ventilation strategy. IPC engaged assistance from HFS, who provided guidance that was fed back from NHSL to Mott Macdonald and onwards to IHSL.[27]

68. There are further examples in the period after financial close where Wallace Whittle sought and obtained clinical and IPC input in relation to ventilation parameters which NHSL will address in due course.

General comment

69. NHSL regards clinicians' and other healthcare providers' engagement to be of utmost importance in achieving a hospital that meets the needs of patients and families; but this needs to be carefully balanced against the limitations of their professional expertise and the pressures on their time. Clinicians and IPC specialists are not M&E engineers and they rely on the technical design guidance, together with appropriate professional advice from HFS (now NHS Scotland Assure) and technical advisers, to set out the engineering parameters for designers to follow.

70. It is submitted that the Inquiry will need to be extremely cautious in making any recommendations about the nature, extent and timing of clinical input given the implications any such recommendations may have on the day-to-day delivery of services. Any registered professional should always be careful to act within their competency. Individual clinicians and IPC specialists, by the nature of their professional expertise, do not have the requisite competency in building design or M&E engineering.

71. It might also be doubted that the events that arose in the present case, such as the change of procurement models mid-procurement, are likely to happen again or provide a reliable

[27] 2023 SHI Bundle 10, pp. 894-906.

or satisfactory basis for making recommendations in relation to clinical input that may ultimately inhibit the delivery of clinical services.

72. NHSL welcomes the opportunity to engage in further discussions as to the extent of the role of clinicians, other healthcare providers and IPC in engineering design going forward.

8. INTERPRETATION OF SHTM 03-01

73. The CTI Submission refers to divergent interpretations of SHTM 03-01. It is noted that the interpretation set out by Mr McKechnie was not argued for in any of the parties' responses to the Inquiry's Provisional Position Papers.

74. In terms of the correct interpretation of SHTM 03-01, NHSL notes the force of the observations made in the CTI Submission from §§201ff. The Inquiry is invited to find that the correct interpretation of SHTM 03-01 is that advanced by Mr O'Donnell and accepted by everyone else, other than Mr McKechnie.

75. NHSL observes that the H&K Environmental Matrix was signed off as compliant with SHTM 03-01 by Hulley & Kirkwood and that the IHSL Environmental Matrix was signed off as compliant by IHSL in terms of its tender return.

9. GOVERNANCE

76. NHSL's position is that the governance structures in place in relation to the Project were entirely appropriate and reasonable. The delay to the opening of the hospital was not caused by any failure in the governance structures put in place by NHSL. There were appropriate lines of communication between the Board of NHSL and Finance and Resources Committee and between it and the Project Board / Project Steering Board which would have allowed for issues to be escalated if they were thought to be of sufficient importance to affect the delivery of the Project.

77. NHSL also appointed suitably qualified external technical, legal and financial advisers to provide expert advice in relation to the procurement process and the Project in general. That advice extended to advising on how to utilise the information and design work

accumulated during the period in which it was intended to be a capital funded project after the change in funding. NHSL therefore disagrees with the suggestion at §265 of the CTI Submission that little consideration was given as to whether this was appropriate in a revenue-funded project.

78. NHSL agrees with the suggested conclusion at §268 that there is no evidence indicating that NHSL should have conducted any more detailed assessment of the technical aspects of the IHSL bid before appointing IHSL as the preferred bidder or that any such steps would have identified the relevant problems.

79. NHSL also agrees with the suggested conclusion that, even if the new Hospital had undergone an NDAP, it is unlikely that it would have detected the particular issue affecting the H&K Environmental Matrix because NHSL's clear intention was to comply with SHTM 03-01 and that is what it understood IHSL and Mott Macdonald had assured it IHSL's bid would do.

10. OTHER MATTERS

80. NHSL has no substantive comments to make in relation to Section 1 of the CTI Submission. The issues raised in Sections 3, 6, 7, 8, 9 and 10 of the CTI Submission are addressed in the submissions above.

81. NHSL is in general agreement with the points made in Section 2 of the CTI Submission: "Ventilation requirements in hospitals". In relation to §§58-60, NHSL's position is that it agrees that compliance with the recommendations in SHTM 03-01 should mitigate a danger to patients, although it would be difficult to quantify the exact level of increased risk or the risk to any individual patient of non-compliance due to a range of other factors involved. NHSL welcomes the development of a formal risk assessment and derogation process by NHS Scotland Assure. NHSL intended the new Hospital to be designed and constructed in accordance with the relevant guidance, including, in particular, SHTM 03-01, subject to any agreed derogations. It regarded a failure to comply with that guidance as sufficiently serious to escalate it to the Scottish Government to determine, with support from HFS, what remedial action should be taken before the new Hospital opened. NHSL agrees that there are some weaknesses in the current guidance due to ambiguities or potentially different

interpretations of it. However, NHSL does not accept that Mr McKechnie's alleged interpretation of the requirements of the guidance is a reasonable interpretation of it, and in any event if there was any uncertainty that should have been raised as an issue and clarity sought.

82. NHSL in general agrees with the points made in Sections 4 and 5 of the CTI Submission: "The background and to the RHCYP/DCN and the need for a new hospital" and "Initial Planning and Preparation". It is clear that there was a need for the provision of new hospital facilities to replace the outdated Royal Hospital for Sick Children and Department of Clinical Neurosciences buildings and that need became increasingly pressing after matters were delayed by the change in funding model for their procurement. As noted above, the only statement with which NHSL would take issue is the suggestion at §10 and §115 of the CTI Submission that it is not clear that there was any detailed consideration of whether design work – including the development of the Environmental Matrix – was suitable for a revenue funded project. NHSL received extensive advice and considered matters very carefully before deciding to proceed by way of providing tenderers with the Reference Design.

83. NHSL strongly agrees with the suggestion that prior to the Inquiry making any recommendations it would be helpful to hold a round table meeting or meetings to discuss the possible proposed recommendations. A number of witnesses made suggestions which they thought would be sensible from their particular perspective / expertise / discipline. It is submitted that it would be advisable if these could be discussed more widely to understand the consequences for other stakeholders in such a project if they were required to be implemented. In particular, the cost / benefit of undertaking additional detailed checking of other parties' work may have very significant cost and time implications in a complex design and build project such as the construction of other hospitals in the future. Any recommendations which may have a direct impact on the affordability and deliverability of future projects should only be made with as full an understanding as possible of what their repercussions would be.

11. CORE PARTICIPANTS' DRAFT SUBMISSIONS

84. NHSL has considered the draft submissions exchanged between Core Participants. NHSL does not intend to comment on each draft submission. The absence of comment should not be understood to mean NHSL agrees with the content of the draft submissions. NHSL does, however, wish to respond to certain points.

Parents and Representatives of Children Affected

85. In response to the draft submission provided by the Parents and Representatives of Children affected by their treatment at QEUH (the "**draft PR Submission**"), NHSL acknowledges and shares concerns expressed in relation to infection control. Patient safety is, and always has been, of paramount importance to NHSL. That is why NHSL clearly and repeatedly stated in the tender documents that the new Hospital had to be built in accordance with the most onerous standards. Examples of NHSL's repeated insistence on this and the need for compliance with SHTM 03-01, which relates specifically to ventilation standards, are given elsewhere in this submission at paragraphs 31 to 36. Having specified those standards, it was for IHSL, their contractor, Multiplex, and their design engineers and architects, to design and build a hospital that met those standards. It is therefore not accepted that NHSL failed to make the key requirements for the ventilation system clear to those who were bidding for the construction contract. Compliance with the relevant standard – SHTM 03-01 – was a fundamental aspect of what the bidders were being asked to do.

86. The Inquiry has not looked at what occurred after financial close. What the evidence before the Inquiry has established, however, is that it is not feasible for any client to undertake a complete design review of bidders' designs before financial close. In relation to the new Hospital, certain matters, such as the design of the ventilation system, became part of the Reviewable Design Data process at financial close. Ventilation design therefore continued after financial close. For these reasons, it is respectfully submitted that the conclusion reached in the draft PR Submission is both premature and, in any event, not justified by the evidence. It should also be recalled that at no time was the new Hospital occupied by patients while the issues with air change rates were unresolved. No harm, therefore, has been done to patients as a result of inadequate air change rates in critical care.

Multiplex

87. As will be obvious, NHSL disagrees with much of the Multiplex draft submission. However, NHSL notes with considerable concern the primacy that Multiplex gives to certain events that are said to have occurred after financial close, while at the same time acknowledging that evidence on those matters is yet to be heard. In taking this approach, it is clear that Multiplex is trying to frame a narrative to influence the Inquiry in advance of other Core Participants having the opportunity to do so. Regrettably, and contrary to NHSL's own position that events after financial close should not be covered in the submissions at this stage, NHSL has come to the view that Multiplex's assertions cannot be left unchallenged.

88. NHSL always intended that critical care should have a ventilation rate of 10ac/hr. In entering into Supplemental Agreement 1 in February 2019, it was not NHSL's intention to agree to any derogation from the requirement for a ventilation rate of 10ac/hr in critical care. When, subsequently, NHSL discovered the issues in critical care, they urgently engaged with IHSL and Multiplex in an effort to commence the requisite remedial works. A sensible commercial dialogue could not be progressed because (i) Multiplex / IHSL refused to progress the design without certain warranties which NHSL were not in a position to offer; and (ii) IHSL were unwilling to give the Board design rights. NHSL therefore issued High Value Changes that were ultimately implemented via Supplemental Agreement 2 to avoid protracted delay to the required remedial works. This was regarded as being the most effective route for delivering the necessary changes to the ventilation rates.

89. In its draft submission, Multiplex also place some reliance on Iain Graham's oral evidence[28] in order to support their view on the status of the Environmental Matrix at financial close. In doing so, Multiplex have misconstrued Mr Graham's evidence and have taken it out of context. When Mr Graham's oral evidence is read in context, it is clear that he does not share Multiplex's view on the status of the Environmental Matrix at financial close. Mr Graham's view is clear: the Environmental Matrix included in the Project Agreement was IHSL's document which was to be further developed by them, along with the RDS post

[28] Mr Graham's transcript at pp8, 12 and 18.

financial close, as part of the Reviewable Design Data process. This is also consistent with the terms of Mr Graham's witness statement – see paragraphs 15 to 20.

90. To the extent that Multiplex rely on Mott Macdonald's "Approach to Reference Design" paper in support of their approach to the status of the Environmental Matrix, this should be rejected. That paper was an internal document that was not made available to tenderers. There were numerous iterations of the paper, reflecting developments in the advice being given. The final position was not that the Environmental Matrix was mandatory, and such a position was never communicated to tenderers. The advice to tenderers is found in the ITPD documentation.

12. FINDINGS AND POTENTIAL RECOMMENDATION IN RELATION TO THE INQUIRY'S TERMS OF REFERENCE

91. As noted above, the Inquiry is invited not to make any final findings on the period under consideration until it has been confirmed whether or not Brian Currie, NHSL's Project Director, is able to give further evidence and until after it has heard evidence in relation to the period after financial close that may shed further light on the events under consideration.

92. NHSL's response to the proposed findings set out in the CTI Submission from §304ff is set out below.

TOR 1

93. NHSL disagrees that the reason that the specification for the ventilation system for the new Hospital did not clearly conform to relevant guidance was because of ambiguity in the contract about whether the ventilation system required to fully comply with SHTM 03-01. It is submitted that it is clear that NHSL (i) intended the system should comply with SHTM 03-01 in all respects, (ii) specified that requirement through the BCRs, (iii) IHSL understood that such compliance was a requirement under the BCRs, and (iv) IHSL assured NHSL that the system did so comply. The Chair is invited to make findings to that effect.

TOR 2

94. **§306 of the CTI Submission.** NHSL agrees that there was a transcription error in the (Hulley & Kirkwood) Environmental Matrix arising from human error. The Chair is invited to make a finding to that effect.

95. NHSL does not agree with the other proposed findings at §305 to §311.

96. **§305.** NHSL intended that tenderers required to comply with SHTM 03-01 and it is not credible that the H&K Environmental Matrix was viewed as completely fixed or that the data cells in that Matrix could have been reasonably understood to be a derogation from published guidance. NHSL advised IHSL they had to submit a derogation in relation to any proposed departure form Guidance, even if they assumed there was a derogation in the reference design, and IHSL did not do so. The Chair is invited not to make the finding suggested.

97. **§307 – §309**. NHSL disagrees with findings and the approach taken in these paragraphs. Although the original authors of the Environmental Matrix were not directly involved with the tenderers, it would not have made any difference if they were. There were various opportunities for IHSL to engage with the Project Team, including the Project Clinical Director (who was the conduit to clinicians and infection control specialists), or to engage with the clinicians directly during the detailed design phase. IHSL could have asked at any time whether values in the H&K Environmental Matrix that did not comply with SHTM 03-01 were deliberate or a mistake. That clarification was never sought because the successful tenderer's M&E engineers considered the H&K Environmental Matrix to be compliant with SHTM 03-01. The opportunity was taken to clarify other ventilation issues, for example in relation to pressure in single rooms. The Chair is invited not to make findings in the terms suggested in the CTI Submission.

98. **§310.** NHSL agrees there was no overarching problem with the procurement procedure and suitability of competitive dialogue but otherwise disagrees with the proposed findings. The problems that arose in the ventilation system were not a result of a lack of clarity as to whether the Environmental Matrix was a fixed client brief or not. Given Stewart McKechnie's evidence that he considered the H&K Environmental Matrix was compliant

with SHTM 03-01, the problems with the ventilation system would likely have occurred in any event. The Chair is invited not to make a finding in the terms suggested in the CTI Submission.

99. **§311.** NHSL agrees that a more intense review of the Environmental Matrix at tender assessment stage would have required a significant amount of extra work and issues as to proportionality and cost arise. The Chair is invited to carefully consider the impact on affordability of future healthcare projects before making any findings in this regard.

TOR 3

100. **§312 to §314.** NHSL agrees with the proposed finding at §312 to §314 of the CTI Submission other than the suggestion that the failure to escalate the issue identified by Mr Macrae potentially indicates a flaw in the governance procedures. NHSL supports the recommendation that the Chair should carefully consider the evidence of Mr Greer in this regard. NHSL also agrees that any failure was not a failure of the governance procedures of NHSL. NHSL agrees that the identification of specific issues arising out of Environmental Matrix was part and parcel of a large project and that it was not unusual for such matters to be included in the Project Agreement as Reviewable Design Data. As such, there was no requirement for escalation at that stage. The Chair is invited to make a finding to that effect.

TOR 4

101. **§315.** NHSL agrees that there is no evidence that the error in the Environmental Matrix was anything other than a human error. Further evidence will be required to identify when it was first noticed and whether there was any failure to disclose it.

TOR 5

102. **§§ 316 to 320.** NHSL agrees with the proposed findings in these paragraphs.

TOR 10

103. **§321.** NHSL agrees that this would be an appropriate finding.