CLOSING STATEMENT BY MOTT MACDONALD LIMITED

in relation to

SCOTTISH HOSPITALS INQUIRY EVIDENTIAL HEARINGS IN MAY 2022 AND APRIL/MAY 2023

1. In the following statement, Mott MacDonald Limited ("MML") sets out its position in relation to those issues covered in the evidential hearings in May 2022 and April/May 2023. The statement does not cover all of the issues addressed at those hearings, only those issues that are directly relevant to MML. The statement attempts to follow, so far as possible, the headings adopted in the Closing Submission by Counsel to the Inquiry ("CTI's submission").

2. Any references to paragraph numbers in witness statements refer to statements prepared for the hearing in April/May 2023 unless otherwise stated. Any references to bundles of documents are to those prepared for the hearing in April/May 2023 unless otherwise stated.

Ventilation requirements in hospitals

3. MML's position is as set out in its position paper dated April 2022 that was produced in advance of the May 2022 hearing (bundle 8 for the May 2022 hearing, page 3). MML does not take issue with the summary provided in section 2 of the CTI's submission.

The Activity Database System, Room Data Sheets and Environmental Matrices

4. MML was not involved in the decision to use an Environmental Matrix ("EM"). MML understands that the decision to use an EM had been taken during the capital funded stage of the project. Michael O'Donnell of Hulley & Kirkwood ("H&K") speaks (at para 6) to a design team meeting on 14 December 2009 at which H&K were instructed to develop an EM to take over from Activity Database ("ADB") sheets.

5. There is no evidence that MML provided any advice to NHSL regarding its compliance with CEL 19 (2010). It was not, and would not have been, apparent to MML from the

fact that an EM was being used that the guidance in CEL 19 (2010) regarding the use of the ADB had not been complied with. Richard Cantlay (at para 35) noted that the existence of an EM is not inconsistent with ADB having been used as a briefing/design tool as the ADB could have been used to generate data in the EM: it is just a different way of presenting the same information. Graeme Greer (at para 44) also stated that the use of an EM and the use of ADB are not mutually exclusive: ADB could be used to populate the services in the EM. This view was shared by Susan Grant of HFS (at para 66 as subsequently clarified in email correspondence with the Inquiry) who stated that the use of an EM would not necessarily be incompatible with CEL 19 (2010): the EM would typically be a logical export following production of initial data from ADB.

6. In any event, the use of an EM ought not to have affected the quality of the design. There are potential benefits in using EMs instead of Room Data Sheet ("RDS") produced using ADB. Although there may be scope for errors to be made when using an EM, the use of RDS produced using ADB does not remove the risk of errors.

7. In MML's experience, EMs are commonly used in NPD healthcare projects. In his evidence in May 2022, Richard Cantlay explained that he has seen them being used on "numerous projects." In his statement (at para 53) he described them as a "commonly used tool". Graeme Greer stated (at para 44) that EMs had been used on every NPD project he had worked on. Willie Stevenson (at para 9) confirmed that the use of EMs was not unusual on healthcare projects and that they had been used in most healthcare projects in which he had been involved. In his evidence, Colin MacRae stated that every PFI project that he had worked on had used an EM, which he described as the "standard way" (page 6 of transcript).

8. MML's view regarding the ubiquity of EMs seems to be shared by other parties with experience of designing M&E for similar projects. Michael O'Donnell of H&K (at para 11) described an EM as a standard reference briefing document in most healthcare projects H&K had been involved in. Indeed, he noted (at para 12) that SHTN 02-01 from October 2021 now requires the use of an EM. The common use of an EM also seems to have been the experience of Ken Hall (at para 8) and John Ballantyne of Multiplex (at para 8).

9. Those witnesses with experience of using EMs in practice generally seemed to view them as offering significant benefits when compared to RDS produced using ADB. Willie Stevenson (at para 9) noted EMs to be more user-friendly than working with thousands of pages of RDS. In his evidence, Colin MacRae stated that an EM allowed M&E designers to start work quicker and in a more efficient manner (page 7 of transcript). Michael O'Donnell considered an EM to be a more manageable tool (at para 13); more consolidated and easier to control and review (at para 24). He considered (at paras 21 and 24) that lots of different parties reviewing ADB RDS sheets in a coordinated fashion would be very difficult and impractical as it could involve thousands of pages. In his evidence, he described the process of reviewing thousands of pages of RDS as being very difficult (page 28 of transcript[1]). John Ballantyne (at para 8) described EMs as very useful for capturing all data in one place rather than a library of RDS. Stewart McKechnie of Wallace Whittle ("WW") (at para 4) considered that the idea of all building services engineering information being in one document made sense from a practical point of view. HFS do not appear to have been opposed to the use of EMs, with Susan Grant (at para 66) suggesting that an EM would better enable stakeholder communication. Although Stephen Maddocks expressed concerns regarding the use of an EM, this must be viewed in the context of the fact that, in his oral evidence, Mr Maddocks could not recall having used an EM in practice. He was therefore not speaking from experience of encountering any difficulties in practice.

10. CEL 19 (2010) states that "Spaces designed using ADB data automatically comply with English planning guidance". However, the evidence suggests that it is an oversimplification to conclude that spaces designed using ADB automatically comply with applicable guidance and legislation. Graeme Greer (at para 60) set out his understanding that ADB cannot always be relied on for accuracy. He noted that it could be out of date. He provided a specific example, related to multi-bed rooms in critical care, in which there are apparently contradictory sheets in ADB. Stewart McKechnie (at para 13) stated that ADB was not necessarily up to date. Michael O'Donnell (at para 24) noted H&K's experience that outputs from ADB sheets regarding environmental criteria were often inaccurate or incomplete. In his evidence, he stated

[1] MML noted him as saying "difficult" rather than "different"

that, if the ADB sheets that had originally been produced by NHSL for this project had been used to populate the EM, much of the information in the EM would have been missing or incorrect (page 11 of transcript). He gave a particular example of the ADB sheets for treatment rooms which had 6ac/hr for ventilation, rather the 10ac/hr that was required by the guidance (page 29 of transcript). In his experience, where RDS were used instead of an EM, the environmental data would either not be populated or would need to go through a process of review. In his opinion, the EM produced by H&K was "far superior" to ADB sheets as it was "almost 100% correct", which was "an excellent starting point" (page 29 of transcript). Indeed, he considered that the error in critical care ventilation would have been harder to spot had it been in a RDS than it was in the EM (page 30 of transcript). In his view, the EM was of higher value than ADB sheets (page 35 of transcript). David Stillie's evidence was that the documents used in the present case, including the EM, were of equal quality and value to ADB as those documents contained all of the information that would have been in ADB sheets (page 13 of transcript). Peter Henderson of HFS (at para 58) noted that ADB being moved to the private sector could have caused designers to question its reliability and perhaps use other equivalent tools. Susan Grant (at para 34) stated that ADB has "many limitations". In any event, the ADB incorporates data from HTMs, not from SHTMs, which may be different. A design engineer using the ADB in Scotland would therefore use the initial template document from the ADB but then manually enter project-specific environmental requirements with reference to the SHTMs. As Stephen Maddocks noted in his report, ABD sheets are a "starter for ten". There remains scope for error while using them.

11. In light of the foregoing considerations, it would be reasonable to conclude that the approach taken in the present project was of "equal quality and value" to the use of ADB as a tool for briefing and design, and therefore potentially in compliance with CEL 19 (2010).

12. In any event, the use of an EM on this project did not mean that RDS would not ultimately be produced. The original intention was that a full suite of RDS would be produced by IHSL prior to Financial Close (FC). Although IHSL failed to produce all of the RDS prior to FC, they nevertheless remained under an obligation to produce a full suite of RDS before constructing the hospital (see Richard Cantlay at para 56). As

Michael O'Donnell noted (at para 13), once the EM had been concluded, ADB RDS could be produced to align with it.

The Reference Design

13. MML's involvement in the decision to use a reference design is described in the statement provided by Richard Cantlay for the hearing in May 2022 and in the evidence given by Mr Cantlay at that hearing. The reference design approach was new in Scotland. The use of a reference design was a requirement of SFT as part of the NPD funding model, however the ultimate decision to utilise a reference design for the project was made by NHSL. As Mr Cantlay explained, the main driving factor behind the decision to adopt a reference design approach was to shorten the procurement process and reduce the amount of money spent on having three bidders developing a different design.

14. Following NHSL's decision to use a reference design, MML provided technical advice regarding the use of the reference design. This included MML's Approach to Reference Design paper which evolved through several iterations. The aims of this paper included setting out the reasons for preparing a reference design; outlining the level of detail required for a reference design; outlining the distinctions between mandatory and non-mandatory elements of the reference design; outlining the application of the reference design during competitive dialogue; and outlining the development of the reference design. MML worked collaboratively in identifying how to use the reference design as a procurement tool and present it in a way that would not cut across the NPD procurement processes and risk profile.

15. Para 126 of CTI's submission questions whether, by the conclusion of the Project Agreement, NHSL had provided adequate briefing of the requirements for environmental parameters. MML understand this observation to have been made on the basis that (i) there was no full suite of RDS; and (ii) NHSL contends that the EM could not be taken as a brief. CTI's position appears to be that, in the absence of fully developed RDSs or a fixed EM, IHSL had not been provided with an adequate brief in relation to environmental parameters. However, this position seems to conflate the concept of a design brief with that of a fully developed design. The design brief was

provided through, amongst other things, the mandatory elements of the reference design (which are discussed further, below), the schedule of accommodation, the Clinical Output Based Specification and the list of guidance documents and standards with which the design required to comply. This ought to have been a sufficient design brief to have allowed IHSL to prepare its design, including producing RDS and developing the draft EM. The provision of a full suite of RDS or a fixed EM by NHSL would go beyond simply providing a design brief.

Errors in the Environmental Matrix

16. It is significant that Stewart McKechnie of WW believes that the EM did comply with the guidance. His rationale is that the guidance for Critical Care Areas in Table A1 of SHTM 03-01 related only to isolation rooms. His position is set out in a report dated 15 July 2019 (see para 24 of his statement). This interpretation is said to be based on the "Comments" in Table A1 of SHTM 03-01 regarding "Critical Care Areas" which state "Isolation Rooms may be -ve press". This rationale is not convincing: if the entry for "Critical Care Areas" in the table was supposed to relate only to isolation rooms, it is surprising that it was not headed something like "Isolation Rooms in Critical Care". The use of the plural "Areas" suggests that the entry relates to all areas in critical care, not simply isolation rooms. If the entry related only to isolation rooms, the comment specific to pressure in isolation rooms could have been made in the "Pressure" column as it would apply to the entire entry: it would be strange to include it as a separate comment. If the entry related only to isolation rooms, there would be a gap in the guidance in relation critical care areas other than isolation rooms. Para 163 of CTI's submission identifies a number of other provisions within SHTM 03-01 which cast considerable doubt on Mr McKechnie's claimed interpretation.

17. In his evidence Mr McKechnie sought to justify his interpretation by placing emphasis on the importance of the pressure regime when compared to air change rates. He suggested that the purpose of the provisions in Table A1 in SHTM 03-01 was to prevent contaminated air from coming into a space: and that pressurisation was more important in achieving that than the air change rate (page 16 of transcript). He seemed to dispute the suggestion that air change rates could help dilute contaminants in a room but conceded that he was not an expert on that. He also sought to justify his interpretation

by stating that he did not see 10ac/hr and 10 Pascals of pressure as being a practical solution for all rooms in Critical Care (page 18 of transcript). Although these matters could support an argument that the guidance in SHTM 03-01 is incorrect, they do not undermine the clear terms of Table A1 in SHTM 03-01.

18. Guidance Note 15 in the EM issued with the Invitation to Participate in Dialogue ("ITPD") was accurate in requiring 10 ac/hr in critical care in accordance with SHTM 03-01. MML accepts that there was an anomaly in the EM issued at ITPD stage in relation to some entries in the cells of the EM which were inconsistent with Guidance Note 15 and SHTM 03-01. This matter is discussed in more detail below, in the context of the status of the EM.

19. The subsequent change made to Guidance Note 15 by IHSL (as discussed in paragraph 55.5.7), considered alongside Mr McKechnie's understanding of the guidance, will no doubt be considered at later hearings.

20. MML accepts the terms of the PPP2 which stated "The environmental matrix provided with the ITPD contained environmental information that was inconsistent with the guidance set out in SHTM 03-01. In particular, values inserted in the environmental matrix for certain critical care areas did not comply with the guidance in SHTM 03-01." MML did not understand any of the other Core Participants to dispute this finding in their responses to PPP2.

The Procurement Exercise

The Role of Advisers

21. MML's role in the project up to procurement is described in the statement provided by Richard Cantlay for the hearing in May 2022 and in the evidence given by Mr Cantlay at that hearing. In summary, MML's involvement during this phase was as follows:

22. The project was initially approved as a capital funded project. On 4 February 2010, MML was appointed as NEC Supervisor. Capital funding was withdrawn in 2011 and the project migrated to an NPD procurement model.

23. MML entered into a contract with Lothian Health Board dated 22 March 2011 which appointed MML as Technical Advisor (TA). MML entered into a sub-contract with Davis Langdon (DL) in terms of which DL became Project Managers. DL was also responsible for the reference design management and coordination. DL entered into sub-contracts with the reference design team. The reference design team included H&K as Services Engineer. The reference design team was appointed by means of Contract Control Order 2 dated 11 July 2011.

24. During the pre-procurement phase, MML's role involved facilitating production of the reference design by the reference design team; developing technical components of the OJEU Notice and Pre-Qualification Questionnaire Evaluation; developing the technical components of the ITPD; and participating in the Competitive Dialogue process. MML's role did not involve undertaking any design or assuming any design responsibility.

25. MML did at times carry out a limited review of elements of the design as and when required. However, MML was not the project designer, nor did MML provide any design audit service. MML did not undertake a shadow design or validate or approve the design by others. Such a level of review is not a feature of the PPP/NPD model as the whole point of this model is the transfer of design responsibility and risk to the private sector through the Project Agreement. MML's role in reviewing the design is considered in more detail below in the "Governance" section.

26. MML provided technical advice regarding the use of the reference design. This is described in more detail above.

27. MML did not draft or review the business cases, but in the course of fulfilling its contractual obligations, MML provided technical input which might ultimately have been used in the Outline Business Case (OBC) and Final Business Case (FBC).

The clarity of the procurement documentation including the mandatory requirements

28. MML submits that, when the provisions are viewed as a whole, it is clear that the EM was not intended to be mandatory. With respect to the invitation made to the Chair at

paragraphs 172 and 223 of the CTI's submission, MML accepts that the procurement documentation did contain some potential ambiguities. However this does not detract from the overall position that the procurement documents, viewed as a whole, made the status of the EM clear. In any event, the subsequent actions of the parties (as discussed later in this Closing Statement) make it clear that there was no real confusion.

29. The following section considers the status of the reference design EM that was provided to bidders at ITPD stage. The status of the EM at FC will be considered below in the context of the Project Agreement.

30. During the period leading up to the procurement exercise, internal consideration was given by NHSL and MML to the reference design EM being mandatory for bidders. This is evidenced by Revision J of the "Approach to Reference Design" paper (bundle 2, page 605 at page 622). However, the "Approach to Reference Design" paper was an internal document that was not issued to bidders. There were a number of iterations of the document, reflecting the evolution of the plan for the procurement process. Making the EM mandatory for bidders was not the final position, nor was it the position that was communicated to bidders. That position is to be found in the ITPD documentation itself.

31. Richard Cantlay (at para 8 and in his oral evidence) explained the status of Volume 1 and Volume 3 of the ITPD. As he stated, volume 1 of the ITPD (bundle 2, page 942) was a procurement document which explained the procurement process (e.g. what bidders are required to do in terms of submitting a bid, arrangements during the bid period, how bids will be evaluated etc) and became redundant at FC. Volume 3 (bundle 2, page 773) was the Board's Construction Requirements ("BCRs") (the output specification for the design and build of the project) and would form part of the Project Agreement at FC. This is apparent from the fact that it is headed "Schedule to the Project Agreement…" As Richard Cantlay went on to explain, at the start of the procurement process, Volume 3 was drafted (as much as it could be at that stage) in the form it was intended to be when included in the Project Agreement at FC, with the appreciation that it would have clauses amended and sections added to it (such as the final agreed EM) as developed and agreed through the procurement process to reflect the agreement reached between NHSL and the preferred bidder.

32. The difference in status between Volume 1 and Volume 3 does not seem to be recognised in CTI's submission: although it is fundamental to a proper understanding of the procurement documents, it is not mentioned at all. Provisions in Volume 1 and Volume 3 are referred to interchangeably as if they were of equal status. For example, at paragraph 185 of CTI's submission, when construing clause 2.6 of ITPD Volume 1, reference is made to the definition of EM in the draft BCRs at Volume 3. Given that Volume 1 and Volume 3 serve different purposes, provisions in Volume 3 do not assist in interpreting the provisions in Volume 1. Similarly, paragraph 214 of CTI's submission refers to paragraph 8 of the draft BCRs at Volume 3 as being "a direct instruction to tenderers". This is plainly incorrect. The instructions to tenderers are to be found at Volume 1, not Volume 3. Accordingly, the following submissions will focus primarily on the provisions in Volume 1. The finalised BCRs, as found in the Project Agreement, are considered in the section on the Contract, below.

33. Clause 2.5 of ITPD volume 1 (bundle 2, page 963) clearly set out the mandatory elements of the reference design under reference to Appendix E (bundle 2, page 1156): the EM was not included in the mandatory elements in either clause 2.5 or Appendix E. As Richard Cantlay stated (at para 9), this was entirely intentional and reflected the fact that, with the exception of matters related to Operational Functionality, the design risk was to sit with Project Co. Further provisions in ITPD volume 1 are to the same effect. Clause 2.6 (bundle 2, page 965) expressly stated that "Building services engineering solutions" were included as part of the "Indicative Elements of the Reference Design". "Building services engineering solutions" would include the EM. Clause 2.6 continued "Such information is issued to the Bidders for "information only" so that they may understand the intent of the Reference Design."

34. Section C8.2x of the Submission Requirements at Appendix A(ii) of ITPD Volume 1 (bundle 2, page 1052) required bidders to provide "An environmental conditions/room provisions matrix for both mechanical and electrical services for each room in the Facilities…" This clearly placed the onus on bidders to provide their own EM. Such a requirement is impossible to reconcile with the notion that the draft EM provided by NHSL was a mandatory part of the brief.

35. Section C8.3 of the Submission Requirements at Appendix A(ii) of ITPD Volume 1 (bundle 2, page 1054) stated "Whilst Bidders are required to undertake their own design, the Board has provided a draft Environmental Matrix as part of the ITPD documentation. Bidders must confirm acceptance of the Board's Environmental Matrix, highlighting any proposed changes on an exception basis." It was therefore made clear, under specific reference to the EM, that (i) bidders were to undertake their own design; (ii) the EM provided in the ITPD documentation was a "draft"; and (iii) it was anticipated that bidders could propose changes to the draft EM. In his evidence Richard Cantlay explained the rationale for requiring bidders to highlight proposed changes on the Board's EM (page 22 of transcript). He stated that it was a very detailed document containing a huge amount of data and that marking changes on this draft would give a good indication of where a bidder's proposals varied from the baseline. This provision was accordingly not about restricting a bidder's ability to make changes, but rather requiring those changes to be highlighted so that there was clarity about what was being proposed in comparison with the EM produced at reference design stage. In this context it is worth noting that, in its draft Closing Submission, Multiplex suggests a choice between (i) the reference design EM being mandatory; or (ii) the reference design EM being a document that tenderers should ignore because they had to prepare their own EM from scratch. This is false dichotomy. MML's position is not that the reference design EM should be ignored by tenderers, nor that tenderers were required to prepare their own EM from scratch. It was envisaged that tenderers would use the reference EM as a starting point to develop their own designs, as is clear from section C8.3. A tenderer could choose to ignore the reference design EM and start from scratch if that was their preference, but they need not do so. Should they choose to do so, they had been provided with a suite of other documentation to assist in that task, including the schedule of accommodation, the Clinical Output Based Specification and the list of guidance documents and standards with which the design required to comply.

36. The status of the EM provided to bidders at ITPD stage is also apparent from the document itself which stated, at Guidance Note 1 (bundle 4, page 132), "This workbook is prepared for the Reference Design Stage…" It continued, at Guidance Note 5, "Ventilation air change rates… in Patient Areas shall be reviewed throughout the detail design process…" This wording is inconsistent with the notion that the provisions in EM were mandatory: on the contrary they were to be subject to ongoing review.

37. Providing the EM to bidders on the basis that it was not mandatory was consistent with the overall decision to make use of the design work that had already been undertaken. The EM would provide information which the bidders could use but which they were not bound to follow. It would also assist in providing clarity about the extent to which the tenderer's proposals varied from the "baseline" EM produced by H&K.

38. Clause 2.5 of volume 1 of the ITPD (bundle 2, page 963) also stated "Bidders will be fully responsible for all elements of the design and construction of the facilities including being responsible for verifying and satisfying themselves that the Mandatory Reference Design Requirements can be designed, built and operated to meet the Board's Construction Requirements". The draft BCRs were included in ITPD Volume 3. The key relevant provisions in the final BCRs are considered in more detail, below, in the context of the Project Agreement.

39. Paragraph 8 of the draft BCRs contained in ITPD Volume 3 (bundle 2, page 873) stated that "Project Co shall provide the Works to comply with the Environmental Matrix." Volume 3 defined the "Environmental Matrix" as "the Environmental Matrix, which details the room environmental condition requirements of the Board required within each department / unit / space / area. The title is Reference Design Envisaged Solution – RHSC / DCN Environmental Matrix version third issue as set out in Appendix C of this Section 3 *(Board's Construction Requirements)* of Schedule Part 6 *(Construction Matters)* (as varied, amended or supplemented from time to time in accordance with the Project Agreement)". As Richard Cantlay explained (at para 13), given that this version of the EM is described at Section C8.3 of Volume 1 as being a "draft", it was anticipated that the final version of the BCRs for inclusion in the Project Agreement at FC would have the EM reflecting the preferred bidder's design included in it and that this definition would be amended accordingly. The definition of EM did indeed change between the ITPD documentation and the Project Agreement. The EM itself appeared as an appendix to the draft BCRs in ITPD Volume 3: however, in the Project Agreement it was moved to schedule part 6 together with the RDS, reflecting its status as one of IHSL's documents.

40. MML would invite the Chair to conclude that it is was made clear to bidders that the EM provided to bidders at ITPD stage was not mandatory. Such a conclusion would be consistent with the provisions in the ITPD documentation set out above and with the key principle described by Richard Cantlay (at para 8) that the design risk on a PPP contract sits with the private sector (with the exception of operational functionality).

41. This view is shared by NHSL. Susan Goldsmith confirmed (at para 10) that the EM was provided for information as disclosed data. Its provision did not mean that bidders need not refer to SHTMs or use the ADB (at para 19). She considered (at para 20) that the provision of the EM to bidders ought not to have contributed to the delay in opening the hospital because IHSL required to comply with SHTM 03-01. In her evidence, she noted her sense that Multiplex did not fully understand the contractual responsibilities under an NPD contract. Brian Currie, in a statement provided for the hearing in May 2022, stated (at para 24) that it was always clear that the reference design would be replaced by the preferred bidder's full design solution and (at para 48) that this was a fundamental point that was communicated to bidders. He noted (at para 35) that the only element of design retained by the Board was operational functionality, which did not encompass matters such as ventilation. He stated that the EM was a non-mandatory element that had been developed to verify the feasibility of the reference design. Bidders were to develop their design in compliance with mandatory guidance such as SHTM 03-01 (at para 41). Although the information in the EM was not warranted by the Board and should not be relied on for accuracy (clause 7.2), it was thought that it may prove useful to engineers (at para 45). This understanding of the documentation was also expressed by Iain Graham (at para 15).

42. This understanding of the status of the EM is also supported by the fact that both IHSL and Bidder C made changes to the EM. The significance of these changes is discussed further below.

43. This understanding of the status of the EM appears to be disputed by witnesses from Multiplex and WW. The approach taken by these witnesses is perhaps best exemplified by the evidence of John Ballantyne when challenged on his interpretation of one of the provisions in the ITPD documentation (paragraph 5.2(f) of the BCRs at bundle 2, page 839). When it was put to him that his interpretation was not what the provision said, he referred to "the unwritten word" and "implied compliance" (page 28 of transcript).

The approach taken by these witnesses relied on erroneous assumptions about the terms of the documentation and wishful thinking. It perhaps reflected Susan Goldsmith's sense (page 32 of transcript) that Multiplex did not fully understand the contractual responsibilities under an NPD contract. The witness statements provided by these witnesses are lacking in explanation for the basis of their interpretation of the status of the EM. They largely proceed by way of assertions that the EM "encapsulating the Board's requirements" (Ken Hall at para 13); that the EM was "what the Board wanted" (Paul Serkis at para 28); that the EM was a "line in the sand" regarding the technical requirements IHSL was expected to deliver (John Ballantyne at para 10); that "it was seen as the Bible" and "Validation and certification were to be done against the Environmental Matrix" (John Ballantyne at para 12); that it was mandated conditions the client was providing and formed part of their brief (Stewart McKechnie at para 4) and that it was assumed to be "the key document" (Paul Cooper at para 6).

44. Ken Hall went so far as to say that NHSL was "responsible for interpreting the guidance and then producing their requirements" and seemed to say (at para 23) that there was accordingly no need for Multiplex/WW to check the EM for compliance with SHTMs. He continued (at para 33) that, in the event of a conflict between the EM and the guidance "the matrix would prevail because the interpretation of the guidance had already been done which then produced the matrix". His attitude when giving evidence and asked about other parts of the BCRs that he had not considered was that "we had the EM" that "effectively gave the MEP answers that we needed" (page 22 of transcript). He considered that the existence of the EM meant that the process of going through other documents in more detail had already been done. He claimed that "because it all tied up, then it seemed straightforward" (page 24 of transcript) that the EM was what they were to use.

45. Ken Hall's stated interpretation was that the provision for 4ac/hr for Critical Care bedrooms was a conscious and deliberate choice made by the Board. He claimed that this was supported by H&K's Thermal Comfort Analysis, the output from which was 4 mechanical air changes per hour. However, when taken to this document (bundle 4, p184) during his evidence he immediately conceded that he had not looked at it in any great detail and that he "skimmed through" it (page 35 of transcript). In fact, the document offers no support for his interpretation: at section 2.6 (bundle 4, page 194), it

states “As such critical care and high dependency type ward rooms which receive air change rates in the region of 10ACH, have not been analysed in this study.” Had Mr Hall read the document properly, it would have been apparent to him that the document offers strong support for the requirement of 10ac/hr in Critical Care. In his evidence, he was unable to provide any satisfactory explanation for his attempt to rely on this document as supporting his interpretation. Mr Hall also sought to rely on inputs that had apparently been used for energy calculations but was not able to identify any particular document that supported this claim. In his evidence, Stewart McKechnie recalled that the energy calculations were not based on an assumption of 4ac/hr for single bed rooms. There is accordingly no compelling evidence before the Inquiry supporting Mr Hall’s suggestion that the provision of 4ac/hr for Critical Care bedrooms (in direct contradiction to the clear provisions in SHTM 03-01) was a conscious and deliberate choice.

46. Ken Hall (at para 34) and Stewart McKechnie (at para 28) sought to justify their interpretation by reference to the inclusion of the EM in the BCRs. In his evidence Mr Hall stated that the BCRs were “our key document” (page 11 of transcript) that he used throughout the Preferred Bidder stage. He claimed to have a good insight and understanding of the BCRs and stated that he had read the BCRs. He continued that section 8 of the BCRs was the “key document for me” (page 11 of transcript). However, as his evidence developed, it became apparent that he was not familiar with the totality of the BCRs, at one stage stating that he did not go through the BCRs line by line (page 23 of transcript). He claimed that he was aware of the Clinical Output Based Specifications and had a copy of them, but when asked specific questions about them he stated that he had not read them and that it was “more a secondary type document” (page 20 of transcript) for him: despite the fact that it formed part of the BCRs and contained elements concerning the services provision for each department. In any event the reliance placed by witnesses on the opening sentence of paragraph 8 of the BCRs involves taking one sentence of the ITPD documentation out of context and ignoring the other provisions, discussed elsewhere in this statement, which clearly demonstrate that the EM was not a mandatory document. It also involves ignoring the totality of paragraph 8 of the BCRs which state, not just that the Works ought to comply with the EM, but also that the works comply with mechanical requirements including SHTM 03-01 and, for the avoidance of doubt, that the hierarchy of standards provision applies.

These provisions are considered in more detail, below, in the context of the Project Agreement. In any event, it ought to have been plain from a complete reading of the BCRs, particularly the very paragraph in which compliance with the EM is mentioned, that this did not mean that IHSL could simply ignore SHTM 03-01.

47. Multiplex's approach to the ITPD documentation is perhaps illustrated by its attitude to the requirement to produce RDS. Paul Serkis (at para 35) considered that it was not normal for a client to seek to have 100% RDS in place at FC: however, that is exactly what the ITPD documentation required (see para 2.5.3 of ITPD Volume 1 (bundle 2, page 965)). Similarly, in her evidence Liane Edwards stated that preparation of the RDS was a time-consuming activity and that it "didn't seem reasonable" (page 16 of transcript) to prepare 100% of the RDS, notwithstanding the requirement in the ITPD. As CTI's submission notes (at paragraph 245), despite complaints by IHSL about NHSL changing what was required, no witness was able to provide any example of a radical change by NHSL to the stated requirements that increased the requirements placed on IHSL. As with the issue regarding the EM, any claimed misunderstanding could have been avoided had the key personnel within IHSL, Multiplex and WW read all of the applicable documentation rather than focusing on those isolated passages that supported their preconceived assumptions about what might be required.

48. Ken Hall (at para 34) also sought to place reliance on the wording of paragraph 2.3 of the BCRs (which stipulates compliance with standards including SHTMs) as supporting his interpretation. In particular, he placed reliance on the words "unless the Board has expressed elsewhere in the Board's Construction Requirements, a specific and different requirement", claiming that the EM was such a "specific and different requirement" such that compliance with SHTMs was not required. The merits of this argument are considered further, below, in the context of the Project Agreement.

49. Ken Hall also sought to place reliance on section C8.3 of the evaluation criteria. However, when asked about this in evidence his position seemed to be that he did not pay any attention to what the full provision meant and appeared to accept that the wording was at least ambiguous (page 40 of transcript).

50. In addition to some of the Multiplex and WW witnesses placing reliance on an incomplete reading of the BCRs, others placed reliance on their recollections of what

they claim to have been told by NHSL and/or MML. Paul Serkis claimed (at para 28) that Multiplex were told by NHSL and MML that there was a reference design and "Don't change any of it… just deliver what we want." However, when asked during his evidence who had told him this, he could not remember exactly, but that it was a "feeling" he had from the various meetings (page 17 of transcript). In any event, he did not recall any specific conversations regarding the EM. It therefore seemed that his "feeling" that IHSL were not to make changes related to the project more generally, not to the specifics of the EM. Taking his recollection as a whole, there was no compelling evidence that IHSL had ever been told that the EM was a mandatory document that could not be changed.

51. John Ballantyne (para 13) claimed that Multiplex were told "at the competitive dialogue meetings that the Environmental Matrix was mandatory and that there was to be no deviation. It was absolute." However, his position in evidence was not so definitive. When asked what he was told during competitive dialogue about the EM he said that it was just another document of the reference design that were all to be read in conjunction with one another. When specifically asked who had told him that the EM was mandatory, he gave a vague response and could not "single out" an individual (page 16 of transcript). More generally, he described it has being his "understanding" that the EM was the expectations of the Board (page 8 of transcript). When expressly asked if there was any discussion about the status of the EM at the bidder's day, he did not recall there being any. Although he then went on to state that he was surprised during the process to understand the "elevated importance" of the EM as it was not a document that "jumps off the page" as being one of "great debate and gnashing of teeth" it is not at all clear what he meant by this (page 8 of transcript). He then suggested that the EM was "effectively the board's expectations" that would then be developed by the three bidding entities (page 10 of transcript). Any such development would tend to suggest that the EM could not have been a fixed, mandatory document. In any event, his evidence fell a long way short of a clear articulation of having been told directly by NHSL or MML at any stage that the EM was a mandatory document. The impression left by his evidence was that he was recalling general statements by NHSL regarding the reference design as a whole, rather than specific comments related to the EM.

52. Neither of these witnesses referred to any documentation supporting their recollections, nor did they identify any particular person who is said to have made these statements. Their recollection is refuted by witnesses from MML and NHSL. Richard Cantlay (at para 15) stated that he did not recall any statements from the Board or any of their advisors to the effect that bidders were not to innovate in developing the EM. Although he did not participate in all of the competitive dialogue meetings, he considered it to be unlikely that such a statement would have been made given the terms of the ITPD documentation. Graeme Greer (at para 75) stated that he was confident that IHSL was reminded at a number of points that it had responsibility for design, including the EM; and that the EM had to be compliant with the BCRs. Iain Graham (at para 19) noted that the intention that the EM would be redundant at FC as the PB's proposals would contain all the necessary information was "extensively communicated" to bidders in the ITPD and throughout the Competitive Dialogue process. In his evidence he stated that, during Competitive Dialogue, NHSL was asking for updates of the EM in line with bidders' design development on the architectural side of things and engineering developments (page 23 of transcript). He had no recollection of bidders being told that they must comply with the EM as a mandatory requirement (page 24 of transcript). Stewart McKechnie's evidence was that he was present at the competitive dialogue meeting where engineering matters were discussed (page 41 of transcript). He did not suggest that anything was said by NHSL at these meetings to the effect that the EM was mandatory. When he was specifically asked if the EM was discussed at competitive dialogue meetings, his answer was that there was discussion between Multiplex and Wallace Whittle (page 42 of transcript): there was no suggestion of any comments being made by NHSL or MML about the status of the EM. Insofar as he claims (at para 9) that he was asked not to "revamp" the EM, he explained in his evidence that this instruction had come from Multiplex, not NHSL or MML (page 66 of transcript). When he was asked to explain how he came to the view that the EM was mandatory, he relied entirely on what was stated in documents (such as the BCRs) not on anything that was said at competitive dialogue meetings. If something had indeed been said at those meetings to the effect that the EM was mandatory, it is surprising that this did not form part of the basis for Mr McKechnie's understanding of the status of the EM.

53. Given the clear intention on the part of NHSL and MML that the EM was not to be a mandatory document, it is inherently implausible that any representative of either

organisation would have told IHSL during competitive dialogue that the EM was mandatory.

54. Regardless of what was said at any meetings between the parties, the status of the EM is clearly set out in the documentation. Even if Multiplex's understanding from competitive dialogue meetings was that the EM was a mandatory document, that is not reflected in the documentation that it was bound to comply with.

55. In any event, Multiplex's claim that the EM was a mandatory document, and that it did not require to comply with SHTM 03-01 insofar as it was inconsistent with the EM, is in direct contradiction to the actions of the parties before and after IHSL was appointed as preferred bidder. It is apparent from these actions that there was no real confusion about the status of the EM and, in particular, about the requirement that the design comply with SHTM 03-01:

    55.1. IHSL's Specification for Ventilation System dated 13 January 2014 (bundle 6, page 3) was signed off by Stewart McKechnie and submitted as part of its final tender. John Ballantyne's evidence was that Ken Hall sat on top of a triangle of organisations (including WW and Mercury) with responsibility for this document (page 20 of transcript). However, Mr Hall's evidence was that he had not read the parts of IHSL's tender related to M&E "in any great detail to be honest" (page 13 of transcript). Mr Hall's lack of familiarity with these documents perhaps explains his erroneous understanding regarding the status of the EM. The Specification clearly demonstrates IHSL's understanding of the applicable standards at the relevant time. At para 5.0 it states "All elements of the works shall be in accordance with the requirements of current legislation, regulations and industry standards unless otherwise stated. The Ventilation System shall accord with all appropriate Hospital Technical Memoranda, Codes of Practices and relevant British and European Standards and Appendix A." John Ballantyne attempted to explain this statement by focusing on the words "unless otherwise stated" as meaning that the bid need not comply with all guidance (page 19 of transcript). However, this does not provide a convincing explanation. The words relied on by Mr Ballantyne appear in the paragraph before the reference to HTMs: the reference to the ventilation system according

with HTMs is completely unqualified. In any event, there is no statement anywhere else in the tender submitted by IHSL that qualifies its stated intention to comply with all applicable guidance. The document continues (at section U10) "The hospital ventilation systems shall be in accordance with SHTM 03-01…" The document does not make any reference to the EM. Stewart McKechnie explained that this document appeared to be the specification that was part of the package to be passed to sub-contractors and related to no more than the build quality, rather than the design itself (page 47 of transcript). However, the general statements concerning compliance with SHTM 03-01 are not framed as being limited in this way. It is accordingly quite clear that, when IHSL submitted its final tender, its position was that the ventilation system required to comply with industry standards. If IHSL considered the EM to be a mandatory document specifying the ventilation parameters, it is surprising that this is not mentioned in IHSL's Specification for Ventilation System.

55.2. IHSL's document entitled Tender Package Deliverables – Building Services Deliverables Appendix 1.1.5/FT – Mechanical and Electrical Services dated 13 January 2014 (bundle 6, page 323), submitted as part of its final tender, stated (at para 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." Again, this confirms that IHSL's tender proceeded on the basis that the design of the ventilation system required to comply with SHTM 03-01, without any suggestion that parameters in the EM were considered to be mandatory. John Ballantyne conceded in evidence that this provision could be understood as meaning definitively that the ventilation system complied with all aspects of SHTM 03-01. Tellingly, he then continued that if the word "generally" had been inserted before the word "designed", "it might have read better from IHSL's point of view" (page 23 of transcript). He then went on to say that, elsewhere in the documents, there may be specific pointer that SHTM had not been complied with, but he did not identify any such reference.

55.3. IHSL's final tender in relation to C8 "Clarity, Robustness and Quality of M&E Engineering Design Proposals" (bundle 3, page 252) also made it clear that it did not consider the EM to be mandatory. At section C8.1 (page 264) it stated that "These outline designs have been reviewed for compliance with SHTM's etc…" At C8.2(x) (page 303) IHSL noted that it "shall provide an addendum matrix for any rooms on an exception basis highlighting any changes at preferred bid stage". The document then went on to note (at page 304) that "The room temperature set points, air change rate and ands [sic] shall be in accordance with SHTM-03 [sic]." This passage was followed by a table which included an entry for "HDU" with a supply ventilation of 10Ac/hr. IHSL's tender accordingly made it clear that it understood that the ventilation required to comply with SHTM03-01, that IHSL was responsible for reviewing the design to ensure compliance with SHTMs and that IHSL envisaged making changes to the EM at preferred bidder stage. Although CTI's submission makes reference to some passages from IHSL's tender documents (from paragraphs 225 to 228) it does not refer to these passages from the final tender in relation to C8. It is submitted that these passages are important when considering IHSL's understanding of what was required of it by the ITPD documentation.

55.4. On 3 July 2014, Ken Hall of IHSL emailed MML (bundle 10, volume 2, page 1300) seeking an Excel (rather than pdf) version of the EM "to allow to populate [sic] the schedule with any changes." The Excel version was sent to IHSL on 11 July 2014. This followed on from discussions spoken to by Graeme Greer (at para 79). Stewart McKechnie confirmed in evidence that, although he was uncomfortable about taking ownership of the EM as his own document (page 42 of transcript), and had told Multiplex so, he reluctantly did so (page 43 of transcript). The EM was then reformatted and rebadged as an IHSL document. In his evidence, Mr McKechnie agreed that this involved taking something that he saw as a client brief and converting it into a contractor proposal, and that this meant that the contractor took responsibility for the contents of it (page 43 of transcript). He confirmed that he understood that if there were ambiguities between the EM and SHTMs, one of WW's responsibilities was to detect that and bring it to the attention of the Board. In this context he also confirmed that WW had checked "what were seen as the key parameters" (page 40 of

transcript). Paul Cooper also conceded that, once ownership had been taken of the EM by Wallace Whittle, it did form part of the contractor's proposals. This body of evidence makes it plain that the EM was not a mandatory fixed brief. It dispels any notion that there was any confusion about the status of the EM.

55.5. Having taken ownership of the EM, Graeme Greer (at para 74) noted that IHSL produced at least 11 different iterations of the EM. The changes made by IHSL were not simply to augment the EM as rooms were added (as suggested by some Multiplex witnesses), nor were all the changes prompted by comments from NHSL: they included substantive changes to existing provisions. The changes made by IHSL included:

55.5.1. Removing the H&K logo (bundle 4, page 220) and eventually giving the document a WW reference number.

55.5.2. Removing the entry for HDU from the RFRS in the EM prepared by IHSL for Financial Close (bundle 4, page 222). Stewart McKechnie described this as tidying up as WW were "taking ownership" of the EM (page 72 of transcript). This change was not in response to a comment from NHSL, nor was it highlighted to NHSL.

55.5.3. According to Stewart McKechnie's evidence, correcting "some obvious issues" (although he did not explain what those issues were) (page 59 of transcript). He continued "we might have tidied up a wee bit".

55.5.4. Adding Guidance Note 26 (bundle 4, page 221).

55.5.5. Changing all single bedrooms, including those in Critical Care, from positive pressure to balanced (bundle 4, page 226), despite this being in response to a comment made (bundle 4, page 219) concerning standard bedrooms, not those in the Critical Care.

55.5.6. Changing the humidification provisions in Guidance Note 15 (bundle 4, page 221). Stewart McKechnie explained in his evidence (page 54 of transcript) that this change was prompted by one of WW's engineers reviewing the requirements in the EM, particularly guidance note 15 (bundle 4, page 132) and seeking clarification (bundle 10, volume 2, page 1,302).

55.5.7. Altering guidance note 15 so that it related only to isolation rooms in Critical Care. This change came after Financial Close and so will no doubt be explored in more detail at later hearings. However, at face value, it was a critical change to the EM, which went far beyond merely a change, for example, in the number of rooms covered by the EM. It is a direct change which involved the apparently erroneous interpretation and application of SHTM 03-01. It is a change which appears to have been consistent with Stewart McKechnie's erroneous understanding of the guidance. Indeed, in its draft Closing Submission, WW concedes that it made this change because it was "uncomfortable" with the text of the Guidance Notes and wanted to bring them in line with the entries in the matrix. It will likely be MML's position that it is a change which was made without being intimated to NHSL or MML. WW claim, under reference to paragraph 83 of Graeme Greer's witness statement, that the change was noted by others "at the time". That involves a misunderstanding of Mr Greer's position and a misreading of paragraph 83 of his statement. MML understands Mr Greer's position to be that he was not aware of the change at the time. Indeed Mr Greer expressly notes in paragraph 83 of his statement that WW had not highlighted the change, and as such it would not have been obvious to reviewers. MML suggests that this matter is explored with him at the next set of hearings. In any event, for all of these reasons, while this change to the EM relates to the period post-Financial Close, consideration of it will likely assist the Inquiry in reaching its conclusions regarding events prior to Financial Close.

55.6. In around August 2014, IHSL (or one of its contractors) conducted a review of the EM (bundle 8, page 55 at para 2.8) which uncovered "a number of discrepancies". It was minuted that IHSL was going to raise a Request for Information (RFI) with NHSL. Liane Edwards' position in evidence was that this was not a review for compliance but rather a review for consistency (page 18 of transcript). Regardless of whether the review related to compliance or consistency, the conduct of such a review is inconsistent with the claim that the EM was a fixed, mandatory document with which IHSL was required to comply.

MML has conducted a check of the RFI register and has been unable to locate any RFI raised by IHSL concerning this issue. Accordingly, it would seem that IHSL was content to address the discrepancies it had identified in the EM without any recourse to NHSL. That again suggests that IHSL was acting on the basis that it was responsible for the content of the EM.

55.7. NHSL made multiple comments on the EMs produced by IHSL (see for example Bundle 4, page 218). These comments included issues where NHSL was concerned that the provisions in the EM did not comply with SHTM 03-01 (such as the single bedroom pressure issue, which is considered in more detail, below). Such comments are inconsistent with the suggestion that the EM was mandatory or that it in some way took precedence over compliance with SHTM 03-01. John Ballantyne attempted to address this point in his evidence by suggesting that NHSL may allow changes to the "line in the sand" and would "sign off on all changes" (page 13 of transcript). That involves a misunderstanding of the process that was followed. Although NHSL made comments on the EM, it did not "sign off" on any changes that were subsequently made other than in relation to Operational Functionality. This will no doubt be addressed in more detail as the Inquiry considers matters after Financial Close. Stewart McKechnie's attitude to these comments in his evidence seemed to be that he was happy that they were being made as it would reduce the need for WW to identify those issues (page 61 of transcript).

55.8. Stewart McKechnie (at para 8) expressed his surprise by the level of queries that arose on the EM: it seemed to him that it was odd to be answering questions on the "client's brief". The obvious explanation for this was, of course, that the EM was not the client's fixed brief but rather a document that WW (through IHSL) had taken ownership of. Indeed, he conceded that WW had taken ownership of the EM (para 9).

55.9. Similarly, Paul Cooper (at para 15) was surprised by omissions in the EM. Again, the obvious explanation for this is that the document had not been finalised and required to be developed by WW for IHSL.

55.10. In his evidence, Paul Serkis stated that WW would have been asked to review the EM for compliance with design guidance, whether that was at competitive dialogue stage, or from preferred bidder to FC (page 16 of transcript). In his own evidence, Stewart McKechnie stated that, on any healthcare project, any designer would be using SHTM 03-01 as the basis for their design (page 13 of transcript). He confirmed that WW would review the EM against guidance documentation to see that it aligned, and if they were uncomfortable with it, or needed clarification, they would push it up the line to Multiplex (page 11 of transcript). His evidence appeared to be that this review came later on in the project than Mr Serkis has suggested. Paul Cooper, who was involved in the electrical side with WW, also confirmed that they would review the EM for compliance with guidance (page 7 of transcript). In any event, this review of the EM for compliance with guidance, whenever it occurred, is entirely at odds with the suggestion that the EM was a fixed client brief which effectively superseded SHTM 03-01.

55.11. A derogation was ultimately granted in relation to the provision in paragraph 8 of the BCRs requiring that the works comply with the EM (bundle 5, paper apart volume 1, page 3,861). The derogation was granted because of "anomalies" within the EM. It was noted that "This shall be further developed…" This is inconsistent with the EM being a fixed client brief.

55.12. At Financial Close, the EM was included as part of the Reviewable Design Data ("RDD"). If the EM was a mandatory document, as Multiplex claim, it is inconceivable that it could have been included as RDD. Its inclusion as RDD appears to have confused Stewart McKechnie as he thought it was the "client's brief" (at para 22) and it "surprised" Paul Cooper (at para 9). On the other hand, John Ballantyne seemed to have misunderstood the position regarding the inclusion of the EM in the RDD. He claimed (at para 36) that the RDD process was "there to check that the IHSL design was delivering what had been asked for by the Board, including for example what was in the Environmental Matrix." Far from the RDD process being there to confirm compliance with the EM, the inclusion of the EM in the RDD process confirms that the EM itself had not been finalised by that stage. During his evidence, Mr Ballantyne did not know

whether the EM had been included as RDD (page 14 of transcript). When he was shown documentation confirming that the EM was included as RDD, his position became that this was solely in relation to new rooms being added to it (page 15 of transcript). However, the comments on the EM that were to be addressed during the RDD process went beyond simply adding new rooms. In his evidence, Paul Serkis attempted to rationalise the inclusion of the EM as RDD as being part of a process by which the contract permitted changes, which would then be agreed between the parties (page 20 of transcript). However, this seems to conflate the Change Protocol (at clause 33 and Schedule Part 16 of the Project Agreement) with the RDD process. However, later in his evidence (page 30 of transcript) he contradicted this by accepting the validity of Stewart McKechnie's comments to the effect that including the EM in RDD was commercially dangerous for IHSL (which would not be the case if it was part of an agreed change protocol).

55.13. On 17 October 2016, MML emailed IHSL (bundle 14, page 339) following a review of the most recent draft EM provided by IHSL, stating that the Board "still has significant concerns on the items that do not appear to comply with the BCR's." General comment 6 noted that "Some ventilation rates don't appear to comply with BCRs." The email concluded "Whilst the Board has noted general and specific comments above, the Board reminds Project Co that unless the Board has already accepted a derogation, it is Project Co's obligation to comply with the BCR's/SHTMS [sic] etc, and the Board not commenting, does not remove that obligation on Project Co." A further email dated 7 November 2016 (bundle 14, page 338), upgrading the EM to status B for RDD purposes, noted that "the Board still does not believe the Environmental Matrix and resultant design complies with the Project Agreement. Project Co's failure to comply with the BCRs/PCPs… the Board believes would result in a non-compliant Facility." IHSL was invited to "resolve non-compliant and other issues as matter of urgency". It is clear from this correspondence that parties were proceeding on the basis that (i) compliance with BCRs required more than simply complying with the EM; (ii) there was an overarching requirement to comply with SHTMs; and (iii) the onus to develop the EM and provide a

compliant Facility rested with IHSL regardless of any comments made by NHSL and/or MML on the EM.

55.14. As Susan Goldsmith (at para 20) and Graeme Greer (at para 75) explained, IHSL were asked to confirm compliance with SHTM 03-01. IHSL provided this confirmation in a letter dated 31 January 2019 (bundle 14, page 97) that stated: "Construction: - All ventilation systems have been designed, installed and commissioned in line with SHTM 03-01 as required, systems are maintained in such a manner which allows handover at actual completion to meet SHTM 03/01 standards." No doubt this will be explored at a later hearing. It is plain from this confirmation that IHSL took responsibility for the compliance of the ventilation design (as set out in the EM) with the applicable standards. It also completely undermines Ken Hall's claim that SHTM 03-01 had in some way been superseded by the EM for the purposes of the project. While this letter was issued post-Financial Close and will presumably be considered in more detail at a future hearing, its terms are also plainly relevant to the conclusions which the Inquiry might reach in relation to the period prior to Financial Close.

55.15. The suggestion that the draft of the EM that was developed at reference design stage should remain a mandatory requirement throughout the project is inherently unlikely given that the applicable standards and guidance might change over the lengthy period that the project would inevitably take. It is unrealistic that the expectation would be that values were set in stone at reference design stage.

55.16. The suggestion that the EM developed at reference design stage was a mandatory requirement is inconsistent with the key principle described by Richard Cantlay (at para 8) that the design risk on a PPP contract sits with the private sector (with the exception of operational functionality).

56. Having regard to the foregoing considerations, it is apparent that, regardless of the claims made by various witnesses to contrary, all parties, including IHSL, acted on the clear understanding that the EM produced in the ITPD was not a mandatory document and that compliance with SHTM 03-01 was required.

57. Even if, contrary to the actions of the parties, there was some misunderstanding about the status of the EM in the ITPD, the effect of the hierarchy of standards provisions at paragraph 2.5 of the BCRs (which is considered in more detail, below, in the context of the Project Agreement) made it plain that IHSL's design required to comply with SHTM 03-01 regardless of the terms of the reference design EM.

58. In any event, even if the foregoing is not accepted, and one were to proceed on the basis that EM was a mandatory document and that there was no specific requirement to comply with SHTM 03-01, that would not alter the requirement that IHSL proceed on the basis of 10ac/hr for Critical Care. Although the individual entries in the matrix for bedrooms in Critical Care stated 4 ac/hr, Guidance Note 15 made it clear that, for HDU Bed Areas and Critical Care Areas, SHTM 03-01 applied and supply ventilation should be 10ac/hr. As Michael O'Donnell noted in his evidence, the Guidance Notes pull together what is important, the key notes, from the current guidance. These were put up front as "important watch points" (page 19 of transcript). He was clear that the guidance notes take precedence over the values in the matrix. His evidence on this point is consistent with the entry in the "Notes" column of the relevant entries in the matrix stating "See Guidance Notes". In any event, as an engineer, he considered that if there was any doubt, he would "sit on the side of caution" and go with the more onerous provision until it was clarified (page 46 of transcript). Such an approach is consistent with the terms of paragraph 2.5 of the BCRs, which would apply to any discrepancies within the terms of the EM.

59. Willie Stevenson's evidence was also that the Guidance Notes take precedence as they give instructions on how to deal with the matrix and highlight up front the specific requirements (page 12 of transcript). In the event of a major conflict between the Guidance Notes and the entries in the matrix, he would expect someone to raise a query or derogation, although he agreed with Mr O'Donnell's view that the more onerous would take precedence.

60. Stewart McKechnie's evidence was that Guidance Note 15's reference to "10ac/hr" related only to isolation rooms (page 70 of transcript). On a reasonable reading of Guidance Note 15, this interpretation is untenable. It did not seem to be shared by any

other witness who was asked to comment on the EM. It is based on Mr McKechnie's own interpretation of Table A1 of SHTM 03-01, which seems to be erroneous for the reasons set out below. In any event, there is no express mention in Guidance Note 15 of the entry being limited to isolation rooms. The fact that the requirement for "10ac/hr" is included, not just for "Critical Care Areas" but also for "HDU bed areas" suggests that all bed areas in HDU or Critical Care, not just those in isolation rooms, were supposed to have this provision. Such an interpretation is supported by the RFRS which also made provision for 10ac/hr supply in HDU.

61. Whether one approaches matters on the basis that (i) Guidance Notes take precedence over the entries in the matrix; or (ii) the more onerous provision takes precedence, it is apparent that the EM, when properly interpreted, mandated 10ac/hr for Critical Care. Similarly, when one considers the entry for HDU in the Room Function Reference Sheet, being more onerous than the individual bedroom entries for Critical Care, the provision for 10ac/hr ought to take precedence.

62. Given the clear importance of the Guidance Notes, it is surprising, and perhaps rather alarming, that Ken Hall's stated interpretation of the Guidance Notes was that they were effectively working notes from the designer that he was "not that… interested in going through" (page 33 of transcript). On that basis, his view seemed to be that they could be ignored. It is plain from even a cursory review of the Guidance Notes that they could not reasonably be described as working notes and that it would be unwise to disregard them.

63. Similarly, Ken Hall's view of the Room Function Reference Sheet was that it was "not something [he] had any knowledge of" (page 29 of transcript). He agreed to the proposition that he did not think that it was necessary to read or understand this part of the EM. Again, this is rather alarming given that it was an integral part of the document. Michael O'Donnell described it as attempting to summarise all of the repeatable room types in order to make the review process easier (page 38 of transcript).

64. In any event, the whole question of the status of the EM is academic: Stewart McKechnie (at para 24) is of the view that "the EM did accord with SHTM 03-01" and (at para 26) that 4ac/hr in Critical Care "did not appear to be a mistake". Accordingly, it would not have mattered whether the reference design EM was mandatory or not:

IHSL/WW would not have made any changes to the relevant entries because they considered them to be correct. It follows that any ambiguity or uncertainty regarding the procurement documents was of no causative significance in relation to the problems that ultimately developed.

The tender submitted by Bidder C

65. Bidder C (Mosaic) included a revised EM in its tender submission (bundle 7, page 52). Amongst many revisions marked in red, supply ventilation for single bed cubicles and open plan bays in PICU/HDU was changed to 10ac/hr. However, the tender documents did not suggest that this change had been made because the reference design EM was non-compliant with SHTM 03-01. Bidder C's final tender submission in relation C8 (Approach to design and construction – M&E engineering design proposals) stated at section C8.2x (bundle 7, page 156) "Mosaic environmental matrices have been produced to reflect the design criteria used as the basis of the Mosaic proposals… The matrices have been derived from the reference design environmental matrices in order to show where the design criteria have been modified to reflect the Mosaic engineering strategy." The tender submission continued at section C8.3 (bundle 7, page 158) "It is Mosaic's intent to generally follow the reference design environmental matrices except where the criteria are modified by the different engineering strategies proposed, for example the proposed use of chilled beams combined with fresh supply rates based on occupancy… Some other criteria have been modified to enhance the proposed design criteria or adjust values based on the intended room use…" Although certain "key adjustments" were identified, these did not include the entries related to bedrooms in PICU/HDU.

66. Accordingly, the impression given by the tender documentation was that any revisions made by Bidder C to the reference design EM were "to reflect the design criteria used as the basis of the Mosaic proposals" or "to reflect the Mosaic engineering strategy." The documentation would not have put the reader on notice that Bidder C had identified entries in the reference design EM that were not in compliance with SHTM 03-01.

67. Willie Stevenson explained (at para 16) that it would not be a cause for concern if one bidder produced a marked up EM and others did not. He noted that H&K had certified

that its design complied with SHTMs, so there was no reason to suspect that the reference design EM did not comply with SHTMs. In any event, the important thing was not whether EMs produced by bidders matched each other or the reference design EM: the important thing was that they complied with the guidance (at para 17).

68. Richard Cantlay noted (at paras 14 and 66) that bidders required to confirm that their proposals complied with the BCRs (as set out in C21 of the Bid Submission Requirements). Bidders could present different solutions provided each confirmed that the bid, when developed, would comply with the BCRs. In his evidence, he noted that changes being made to the EM would not be a red flag: rather it would make it clear how the bidder's proposal varied from the baseline EM provided to tenderers (page 22 of transcript).

69. Graeme Greer (at para 40) did not consider that bidders producing two different solutions would necessarily have rung any alarm bells: it would not necessarily mean that one had complied with the guidance and the other had not. In evidence he noted that each bidder likely had a different architectural solution, so would have a different matrix for that reason (page 34 of transcript).

70. Colin Macrae also confirmed (at para 10) that different solutions submitted by IHSL and Bidder C was not a cause for concern as the design development had not started – he would have thought Bidder C was being proactive in making a start on developing their design. He noted (at para 14) that the review of the tender did not involve a side-by-side comparison.

71. Paragraph 224 of CTI's submission seeks to ascribe significance to the changes made by Bidder C which is not supported by the available evidence. It is suggested that "the differing tenders submitted by IHSL and Bidder C exemplify the problems with the drafting of the tender documents". CTI's statement goes on to note that both IHSL and Bidder "offered to comply with" the BCRs but that Bidder C had "required to make changes" to the EM, while IHSL "did not offer to change any values" in the EM. CTI then state "It is not clear why one tender was not rejected as a variant bid."

72. It is not at all clear what is meant by a "variant bid". There is no express suggestion that any of the bids failed to comply with the evaluation criteria: they were accordingly

not variant in that sense. The fact that the bids varied from each other is entirely normal: given the volume and complexity of the tender documentation, it would be remarkable if the tenders were identical. The fact that Bidder C made changes to the EM does not mean that the EM had to be changed in order to be compliant with SHTM 03-01: the reasons that Bidder C provided for its changes are set out above: it was to reflect Bidder C's design criteria and engineering strategy. These important passages from Bidder C's tender, which are essential to placing Bidder C's changes in context, are not mentioned in CTI's submission. The suggestion in paragraph 224 of CTI's submission that Bidder C "required to make changes" in order to comply with the BCRs is not borne out by what is stated in Bidder C's tender documentation. The fact that IHSL submitted a different EM would be readily explicable on the basis that it had different design criteria and engineering strategy from Bidder C. In any event, IHSL did indicate that it also intended to make changes to the EM: at C8.2(x) (bundle 3, page 303) IHSL noted that it "shall provide an addendum matrix for any rooms on an exception basis highlighting any changes at preferred bid stage".

73. A proper analysis of the tenders submitted by IHSL and Bidder C does not support the contention that they "exemplify the problems" with the ITPD documentation. Both bidders confirmed that their design would comply with SHTM 03-01. Both bidders indicated that they understood that changes could be made to the EM. Far from exemplifying problems with the ITPD documentation, this passage of evidence supports the contention that there was in fact no real confusion about what was required of bidders.

74. The Chair is invited to conclude that the fact that Bidder C and IHSL submitted different bids should not have alerted MML to any possible issue with the EM.

The intensity of review of tenders

75. Richard Cantlay explained (at para 65) that the bids were reviewed in accordance with an agreed evaluation methodology set out in the Final Tender Evaluation Manual and Supplementary Guide to Final Tender Evaluation. As Iain Graham noted (at para 10) in relation to the tender scoring criteria, a minimum pass/fail threshold was put forward in some areas (such as compliance with basic BCRs) to the make best of quality scores.

He considered (at para 14) that M&E was not given a lower weighting than other elements as M&E installations have an extensive underpinning of technical standards and all criteria in the BCRs had to be passed or the bid would be deemed non-compliant. Richard Cantlay noted (at para 20) that M&E was not a standalone item that was assessed only in relation to section C8: it was also taken into account in other criteria such as C4, C5, C9, C10, C15, C18 and C19.

76. Richard Cantlay explained (at para 65) that, when evaluating the tenders, it was not MML's role to check the design on a line-by-line basis but rather to review the bids in accordance with the agreed evaluation methodology. In his evidence he explained that the tenderers were bidding to design and construct the hospital (page 35 of transcript). They were presenting their approach to how they would do the design rather than presenting a full design. In relation to criteria such as C21 (compliance with the BCRs, which was assessed on a pass/fail basis), the final design could not be considered as it did not exist. Rather the tenderer would be confirming that, when doing the design, they would comply with the BCRs. That statement would be taken at face value. Graeme Greer also confirmed (at para 22) that tender evaluation would not involve a line-by-line check of each bid for compliance with all the guidance in the BCRs. In his evidence he described how each assessment team would perhaps have two to three hours to review the response to each question: "not a massive amount of time" (page 13 of transcript). He noted that this was not a design check, rather it was a review of submissions. So far as compliance with the BCRs was concerned, he explained that the onus was on bidders to confirm that they were complying rather than on NHSL reviewing the submissions to confirm compliance (page 25 of transcript). The rationale for this approach lay in the risk allocation in an NPD contract. In any event, reviewing each submission to ensure compliance with the BCRs would have been a huge task which would not have been possible in the time available. Mr Greer considered that checking each tender to ensure compliance with the BCRs would have taken months (page 27 of transcript). Willie Stevenson explained (at para 14) that tender evaluation would be a sample review with a few spot checks: not a line-by-line review. In any event, he noted (at para 15) that the tenders were not the bidder's final design: what was being looking for at final tender stage was an indication that bidders were in agreement that what they were going to design would be compliant with the BCRs. Colin Macrae, who reviewed technical submissions from an M&E perspective including ventilation

and many other elements, confirmed (at para 8) that when assessing tenders, he would not be looking at compliance with SHTMs as the design had not been developed at that stage.

77. Graeme Greer noted in evidence that those RDS that were submitted at tender stage, may have been included as an appendix to the architectural submission as opposed to being part of the M&E submission (page 32 of transcript). In any event he doubted that they would be reviewed as part of the tender evaluation process.

78. Paragraph 234 of CTI's submission states that "the evidence indicates that there was a low intensity review of tenders". It is unclear whether this is intended as a criticism of those conducting the tender evaluation process. It is unclear whether it is being suggested that the tender evaluation process deviated in any way from the agreed methodologist set out in the Final Tender Evaluation Manual and Supplementary Guide to Final Tender Evaluation. It is unclear whether any criticism is being made of the Final Tender Evaluation Manual and Supplementary Guide to Final Tender Evaluation. Reference is made by CTI to two aspects of the task undertaken as part of the tender evaluation exercise: accepting a statement of compliance with the BCRs at face value; and conducting some sample reviews. The sample review itself is described at paragraph 23 of CTI's submission as a "very low intensity 'sample' review". It is then suggested at paragraph 234 that the characterisation of the tender evaluation process as a "low intensity review" is "exemplified" by the lack of a review of the RDS.

79. It is submitted that the evidence does not support CTI's characterisation of the tender evaluation process as being a "low intensity review". The full work involved in evaluating the tenders was touched on very briefly in evidence. It is submitted that the Inquiry would be unable to reach any conclusions regarding the intensity of the evaluation process from the limited examples mentioned by CTI. The full evaluation criteria are set out in the ISFT documentation (bundle 3 from page 71 to 153). Each of the three tenders had to be evaluated against that full set of criteria. Bundle 6 comprises no more than the "key sections" of IHSL's tender. The bundle runs to 1,203 pages and touches upon a very small proportion of the evaluation criteria. Insofar as any criticism is made of a "sample review" exercise, it is unclear what practical alternative is being suggested. The Inquiry heard evidence (discussed below in the Governance section)

from a number of witnesses regarding the scope of the task in conducting a full review of the EM (which formed one relatively small element of the tender documentation). A full review of each of the three tenders, including checking for compliance with all of the BCRs, is likely to have taken several months. Given that, at tender evaluation stage, the design had yet to be developed by the successful bidder, any detailed review would have been wholly disproportionate and prohibitively expensive. This must also be considered against the background that NHSL had received confirmation from H&K that the reference design EM complied with applicable guidance.

80. Insofar as it is suggested that the sample review itself was of "very low intensity" there was simply no evidence about the level of intensity with which the sample review was conducted to enable any view to be formed about its level of intensity. In short, the evidence did not suggest that a sample review exercise was inappropriate, nor that any valid criticism could be made of the manner in which that sample review exercise was carried out.

81. In its draft Closing Submission, WW invite the Inquiry to consider whether IHSL may have been left with a misplaced confidence that its tender had been assessed as being fully compliant with the BCRs. WW does not point to any evidence to support the suggestion that IHSL had any such confidence. MML is not aware of any such evidence. Given the evidence (discussed below in the Governance section) regarding the scope of the task in conducting a full review of the EM, it seems highly unlikely that any tenderer could have entertained any genuine understanding that the tender evaluation process included a detailed review of every tender to ensure full compliance with the BCRs.

The period to Financial Close

82. The problems and difficulties described in CTI's submission (from paragraph 241) were primarily the result of IHSL failing to deliver on its requirements. As CTI note (at paragraph 245), despite IHSL's complaints to the contrary, no witness was able to provide any example of a radical change by NHSL to the stated requirements that increased the requirements placed on IHSL.

83. As Graeme Greer stated (at para 65), by Financial Close there was not a complete set of RDS from IHSL. This resulted in RDS being included as RDD. Susan Goldsmith stated (at para 41) that Multiplex did not make the design progress that it was expected to make prior to Financial Close. She continued (at para 43) that, in order to reach Financial Close, a pragmatic way forward was agreed. She considered that Multiplex used commercial leverage knowing NHSL had limited options (para 45). In her evidence, she explained that NHSL were comfortable waiving the requirement for a full set of RDS by Financial Close because contractual responsibility for producing them would lie with IHSL after Financial Close. Iain Graham noted (at para 36) the pressures from various parties to get to Financial Close, and that the reduction in the number of RDS for inclusion in the Project Agreement was one of many compromises, although this was mitigated by the provision of RDS for key and generic rooms. He noted (para 46) that Multiplex strongly resisted completing 100% RDS as it would require too much time and cost prior to Financial Close. This resulted in RDD being more extensive than expected (para 50). In her evidence, Janice MacKenzie described this as a pragmatic decision as they had got so far as needed to get on and build the hospital (page 19 of transcript). Richard Cantlay noted that the bidder had put forward a fixed price, so the risk to the Board would be the same whether design issues were finalised pre or post Financial Close (page 41 of transcript).

84. As Graeme Greer explained in evidence, the first RDS were produced eight weeks out from the projected Financial Close date (page 31 of transcript). Given the timescales involved, they were not reviewed prior to FC.

85. Colin Macrae described his involvement in highlighting discrepancies in relation to single bedrooms. His concern was that the bedroom ventilation was described in the IHSL EM as being positive. He considered this to be an infection control risk. This issue was noted during the preferred bidder stage (see bundle 4, page 275). In his evidence he suggested that during this period his reviews got "more focussed" (page 14 of transcript), although still at a "fairly high level" (page 15 of transcript). It is apparent from the comment raised on this issue, when compared with the requirements of SHTM 03-01, that the issue related to standard single bedrooms, not to those in Critical Care. This was one of the outstanding issues that led to the EM being RDD (bundle 5, p880). It was not resolved at FC.

86. Graeme Greer's position in evidence was that this was one of many issues that they were working through at that point (page 45 of transcript). It did not jump out as being a higher priority than anything else that was being worked on. He noted that there was no indication that IHSL would not address it so that the design was compliant with SHTM 03-01 (page 46 of transcript). Richard Cantlay was not surprised that an issue such as this would arise at this stage as the preferred bidder would be developing its design which would be reviewed in more detail (page 43 of transcript). The understanding that this issue was not sufficiently serious to prompt a wholesale review of the EM is supported by Paul Serkis's evidence that this was not something that had been raised as a red flag to him or John Ballantyne and that he could not recall any major conversations about it (page 27 of transcript). On reviewing the documents now, he considered that this was something being raised for review: it was not unusual, just another item to be dealt with as part of design development (page 28 of transcript). Susan Goldsmith considered that this was one of several issues that needed to be resolved, and that she was reassured by the fact that the risk had been identified and was being addressed (page 40 of transcript).

87. Paragraph 248 of CTI's submission suggests that this issue highlighted that H&K's confirmation that the EM complied with SHTMs was not accurate, and that a failure to "re-visit" the EM was a missed opportunity. It is unclear what is meant by "re-visit". As is readily apparent from the fact that the issue came to light during a review of the EM, the EM was being subjected to review by MML and NHSL. In that sense it was being revisited. However, for the reasons discussed elsewhere in this submission, any full review of the EM would have taken months. Given the time and costs involved, the pressure to achieve FC, the lack of any obvious reason to suppose there were any other significant errors in the EM, and the fact that design risk ultimately sat with IHSL, any such review would not have been a reasonable option.

The Contract

88. MML recognises that it is not the role of the Inquiry to determine the correct interpretation of the contract. It is readily apparent that there are competing interpretations amongst the various Core Participants. In this part of the submission

MML sets out what it contends to be the correct interpretation of the Project Agreement and to highlight all of the relevant provisions.

89. MML accepts the observation made at paragraph 258 of CTI's submission that the wording of the Project Agreement did contain some potential ambiguities about the status of the EM. However, MML submits that, when the Project Agreement is viewed as a whole, the status of the EM is clear. In particular, it is clear that the provisions in SHTM 03-01 took precedence over the EM. That understanding is clear not just from consideration of the provisions identified in the following paragraphs: it is also apparent from the actions of the parties (discussed above at paragraph 55), all of whom proceeded on a clear understanding that compliance with SHTM 03-01 was required. The summary of the position adopted by IHSL/Multiplex/WW in the last sentence of paragraph 258 of CTI's submission is not borne out by the evidence regarding their actions.

90. Clause 12.1.1 of the Project Agreement (bundle 5, page 24) provides that "Project Co shall carry out the Works… so as to procure satisfaction of the Board's Construction Requirements…" Paragraph 8 of the BCRs (bundle 5, page 289) provides, *inter alia*, that "Project Co shall provide the Works to comply with the Environmental Matrix."

91. Paragraph 2.3 of the BCRs (bundle 5, page 211) provides that "In addition to the standards listed in paragraph 2.4 of this Sub-Section C, unless the Board has expressed elsewhere in the Board's Construction Requirements, a specific and different requirement, the Facilities shall comply with but not be limited to the provisions of the NHS Requirements as the same may be amended from time to time." The list of NHS Requirements included "h) HTM and SHTM". Paragraph 2.3v (bundle 5, page 213) continued: "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."

92. IHSL argues that the EM is a "specific and different requirement" covered by the qualification to paragraph 2.3 such that there is no requirement for it to comply with the SHTMs. It contends that the EM accordingly took precedence over the SHTMs. However, on a complete understanding of the provisions of the Project Agreement, this argument is incorrect for the following reasons:

92.1. A derogation was ultimately granted in relation to the provision in paragraph 8 of the BCRs requiring that the works comply with the EM (bundle 5, paper apart volume 1, page 3,861). The derogation was granted because of "anomalies" within the EM. It was noted that "This shall be further developed…" Accordingly, at the time the Project Agreement was finalised, the requirement that the works comply with the EM was the subject of a derogation and therefore did not form part of the BCRs. It could not have been a "specific and different requirement".

92.2. Similarly, the EM was included in RDD (bundle 5, p880). It had accordingly not been finalised and signed off for construction. Compliance with it could not have been compulsory. In any event, it was not a "specific and different requirement" as it had not yet been finalised.

92.3. The wording "specific and different requirement" in paragraph 2.3 is not apt to describe the Environmental Matrix, even once finalised. It was a wide-ranging summary of environmental parameters. It was described, in Guidance Note 1 as no more than a "reference tool". It does not specifically state that it is to take precedence over SHTMs. There is no specific statement anywhere in the Project Agreement that there did not require to be compliance with SHTM 03-01.

92.4. The EM was not a "different requirement" to the SHTMs. On the contrary the Guidance Notes, particularly Guidance Note 15 (bundle 4, page 160), make express reference to SHTM 03-01. Indeed, Guidance Note 15 specifically states that SHTM 03-01, requiring 10 air changes, are the applicable "design criteria". On a fair reading of the EM, it is plainly intended to reflect the SHTMs rather than acting as a specific and different requirement to them.

92.5. In any event, the requirement in the BCRs to comply with SHTMs did not come solely from paragraph 2.3. After making reference to the EM, Paragraph 8 (bundle 5, page 289) continued "Project Co shall in carrying out the Works comply with the following non-exhaustive list of mechanical and electrical requirements…" Paragraph 8.1 Minimum Engineering Standards included "The following is a non-exhaustive list of SHTM's, HBN's and HTM's applicable to the Facilities…h) SHTM 03-01: Ventilation in Healthcare Premises." This express reference to SHTM 03-01 is not subject to the qualification in paragraph 2.3 concerning any "specific and different requirement". Accordingly, even if IHSL is correct in its argument that the EM was a specific and different requirement such that the references to SHTMs in clause 2.3 were of no effect, that has no bearing on the clear provisions in paragraph 8 mandating compliance with SHTM 03-01. On a proper understanding of the BCRs, there is no doubt that IHSL's design required to comply with SHTM 03-01. At paragraph 198 of CTI's submission, it is suggested that the language used in paragraph 2.3 contributed to confusion and ambiguity as to the ventilation requirements. Even if that were correct when viewing paragraph 2.3 in isolation, it ignores other provisions such as paragraph 8.1 which made it clear that compliance with SHTM 03-01 was required. Similarly, the second last sentence of paragraph 253 of CTI's submission implies that paragraph 2.3 is the only paragraph of the BCRs requiring compliance with SHTMs. That is plainly incorrect having regard to the full terms of paragraph 8 and the provisions identified in the following sub-paragraphs (many of which are mentioned in CTI's submission).

92.6. Paragraph 2 of the BCRs (bundle 5, page 209) provided that "Project Co shall ensure the design complies with the general ethos detailed here… Project Co shall ensure that the design of the Facilities draws upon and endeavours to further develop, improve and exceed current best practice (and Good Industry Practice) standards achieved in other similar schemes…" This provision required IHSL's design to comply with SHTM 03-01.

92.7. Paragraph 3.6.3 of the BCRs (bundle 5, page 232) stated "For the avoidance of doubt, Project Co shall provide mechanical ventilation, comfort cooling and air

conditioning to suit the functional requirements of each of the rooms in the Facilities. Irrespective of the ventilation requirements in the Room Data Sheets, where rooms are clearly intended to be occupied and/or become internal spaces during design development and natural ventilation is not possible, mechanical ventilation and/or extract ventilation shall be provided as appropriate to suit the function of the space." This provision required IHSL's design to comply with SHTM 03-01.

92.8. Paragraph 5.2 of the BCRs (bundle 5, page 255) made provision in relation to Infection Prevention and Control. It stated that "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… (f) Ventilation in Healthcare Premises (SHTM 03-01)". This is a further provision requiring IHSL to comply with SHTM 03-01 which is not subject to the qualification in paragraph 2.3 concerning any "specific and different requirement". John Ballantyne commented specifically on this provision during his evidence. He claimed that NHSL had satisfied themselves that the EM complied, without providing any explanation for this claim. When it was put to him that this was not what the provision said, he referred to "the unwritten word" and "implied compliance" (page 28 of transcript).

92.9. Paragraph 8.7 of the BCRs (bundle 5, page 294) provided that "Systems shall be design [sic], supplied, installed, tested, commissioned, operated and maintained all in accordance with the regulations and standards." This provision required IHSL's design to comply with SHTM 03-01.

92.10. Paragraph 8.7.8 of the BCRs (bundle 5, page 304) stated "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…" This provision required IHSL's design to comply with SHTM 03-01. Other provisions to similar effect include paragraphs 4.5.17 (bundle 5, page 253) and 8.5.3 (bundle 5, page 292).

92.11. The Clinical Output Based Specification ("COBS") formed sub-section D of the BCRs (Specific Clinical Requirements), the most relevant part of which was B1

Critical Care (bundle 5, page 376). At 1.8, Environmental and Services Requirements it states (at bundle 5, page 389) "Flexibility in use of the Critical Care beds for both High Dependency and Intensive Care is key to maintaining efficient use of high specification beds… All PICU and HDU bed spaces are required to be of the same specification to allow greatest flexibility of use". At 1.9 "Attention is drawn to the design guidance contained in the following documents: … SHTM 2025: Ventilation". By the time the contract was finalised, SHTM 2025 had been superseded by SHTM 03-01. Notwithstanding the reference to SHTM 2025, it ought to have been readily apparent to IHSL that it required to comply with the current guidance in SHTM 03-01. Taken as a whole, the COBS for Critical Care, which formed part of the BCRs, required compliance with the applicable SHTM and mandated that all bed spaces in PICU and HDU be of the same specification. Stewart McKechnie claimed that the provisions regarding the specification being the same was not an engineering requirement: his interpretation was that this related to layouts, fittings and furniture, not to environmental conditions (page 24 of transcript). The relevant provision does not contain any qualification suggesting that it did not apply to environmental conditions. Indeed, given that the provision comes under the hearing "Environmental and Services Requirements" the most natural meaning of the provision is that it clearly relates to environmental conditions.

92.12. Paragraph 2.5 of the BCRs, Hierarchy of Standards (bundle 5, page 216) stated "Where contradictory standards / advice are apparent within the terms of the Board's Construction Requirements 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." Insofar as there was any inconsistency between the EM and SHTM 03-01, the more onerous provision would take precedence.

92.13. The existence of paragraph 2.5 addresses the concern articulated at paragraph 201 of CTI's submission concerning what "compliance" means when guidance is open to different interpretations. In any event, that concern is said to be

exemplified by the difference in views between Stewart McKechnie and Michael O'Donnell regarding the correct interpretation of the guidance in SHTM 03-01. For the reasons set out above, Stewart's McKechnie's claimed interpretation of SHTM 03-01 is not a tenable interpretation. Indeed, the fact that CTI's submission (at paragraph 306) invites a finding that there was indeed an error in the EM supports the conclusion that there is no real doubt about the correct interpretation of SHTM 03-01.

92.14. Paragraph 8 of the BCRs (bundle 5, page 289) stated "For the avoidance of doubt the hierarchy of standards and advice detailed in paragraph 2.5 (Hierarchy of Standards) of Sub-section C of the Board's Construction requirements shall apply to this paragraph 8." It is therefore clear that paragraph 2.5 applies in determining the hierarchy as between provisions in the EM and provisions in guidance including SHTM 03-01.

92.15. Even if all of that was wrong, and the EM was mandatory and compliance with SHTMs was not required, that does not mean that IHSL's design was compelled to follow the individual cells concerning bedrooms in PICU/HDU/Critical Care. All of the individual entries for rooms in PICU/HDU/Critical Care include "See Guidance Notes" in the "Notes" column. This makes it plain that all of the individual entries are subject to the Guidance Notes. Guidance Note 15 expressly states "Critical Care areas – Design Criteria – SHTM 03-01 – esp Appendix 1 for air change rates – 10ac/hr Supply…" Notwithstanding any individual entries, the reader was accordingly directly back to this provision. To the extent there was any conflict in the EM, paragraph 8 of the BCRs made it plain that "for the avoidance of doubt" paragraph 2.5 applies, which requires the more onerous provision to apply. Even if paragraph 2.5 does not apply as between the EM and guidance, there is no obvious reason why it would not apply as between inconsistent entries in the EM. Accordingly, even if IHSL's interpretation of the contract is correct, regarding the precedence taken by the EM, that has no practical effect in relation to the ventilation issues under consideration by the Inquiry because it was nevertheless compelled to comply with SHTM 03-01 in Critical Care in accordance with Guidance Note 15.

Governance

93. The terms of MML's appointment included, amongst the Technical Advisor Scope, (Bundle 2, page 86) an entry to "Check Reference Design for compliance with all appropriate NHSL and legislative guidelines and requirements (list as pre-agreed with NHSL) and identify any derogations". It should be noted that, contrary to the wording at paragraph 269 of CTI's submission, MML's obligations was not to "ensure" compliance. The agreed estimate was that MML would allocate 5 man days for this task with a total value of £2,605. Comparison with other elements that fell under MML's area of responsibility shows that this was a very modest sum, suggesting that this was envisaged to be a relatively small task.

94. Richard Cantlay explained that this task involved obtaining confirmation that the reference design had been developed in accordance with the applicable guidance and an understanding of any non-compliances or derogations. He described the task as a process of getting to the point of obtaining the written confirmation from the reference design team (page 30 of transcript). That process is evidenced by the email sent by MML dated 28 February 2012 requesting the compliance statement (bundle 4, page 322). The email attached a "Reference Design Compliance Statement Requirements Schedule" which had presumably been prepared by MML as part of the process described by Richard Cantlay. The design compliance statement and derogations list dated 16 March 2012 (bundle 4, page 324) contained comments on multiple pieces of guidance. Although the one concerning SHTMs was a simple statement of confirmation, some of the other entries made reference to derogations from the guidance. These derogations would have required to be considered by MML. It would accordingly be wrong to view the process as no more than MML asking for confirmation of compliance and the reference design team confirming that there had been compliance: the task involved an understanding of multiple different guidance documents and the extent to which they had been derogated from.

95. Richard Cantlay's evidence was that the task mentioned in the Technical Advisor Scope was not to be an independent check of the reference design by MML (page 30 of transcript). Such a detailed review would not be required because a competent design team had been appointed to do the design work. To put this explanation in context, it

is relevant to note that the total fee to the reference design team was £1,715,000 (Bundle 2, p177). H&K's fee alone was £300,000. As Stewart McKechnie noted, the EM itself (which represented only one part of the reference design) contained 50,000 boxes and would have required months to check for compliance (page 40 of transcript). Given the time and cost allocated to MML's check of the reference design, it is apparent that the Technical Advisor Scope did not contemplate a full design audit.

96. It may be relevant to note that the Technical Advisor Scope formed part of a contract entered into in March 2011, before the formal appointment of the reference design team by Contract Control Order No 290961/02 (bundle 2, page 174) dated 11 July 2011. The Technical Advisor Scope was accordingly a prospective assessment of the work that, it was anticipated, would be performed. The final box under the heading "Procurement of NPD Co including Competitive Dialogue" (of which the entry "Check Reference Design" formed a part), states "All items above assume contract to be based on Standard PPP Form Contract." The contract was not a standard form PPP contract. In her evidence, Susan Goldsmith stated that the inclusion of a reference design was a departure from a normal PPP (page 11 of transcript). It is therefore unclear to what extent this provision regarding checking the reference design remained relevant given the form of contract that was ultimately entered into.

97. In any event, the reference design team had an obligation to check the reference design against the applicable guidance. The reference design team, including H&K, produced a reference design compliance statement and derogations list dated 16 March 2012 (bundle 4, page 324). This stated, amongst many other entries, "We have followed SHTMs and also HTMs when there is no Scottish equivalent." Although Michael O'Donnell noted (at para 30) that a further updated EM was subsequently produced in September 2012, he did not suggest that this would have affected the previous confirmation that SHTMs had been followed. He did not suggest that the EM had been revised after March 2012 in a manner that was inconsistent with SHTMs. Insofar as the EM potentially failed to comply with SHTM 03-01 in relation to rooms in Critical Care, H&K was unaware of that issue. In any event, in his evidence, he stated that in order to make the compliance statement, checks were made in relation to the guidance notes (page 45 of transcript). Given that these guidance notes did not change between March 2012 and September 2012, the results of any checks would have been the same.

He went on to state that he did not think any design work had taken place between February 2012 and September 2012 (page 45 of transcript). Accordingly, had H&K been asked to provide a further design compliance statement and derogations list after producing the revised EM in September 2012, it is a reasonable assumption that it would have been in the same terms as the document provided in March 2012.

98. In light of the design compliance statement and derogations list provided by the reference design team, MML proceeded on the basis that the EM prepared by H&K had been checked to ensure that it complied with the applicable guidance including SHTM 03-01. As CTI's submission suggests at paragraph 269, there was little more MML could, or should, have done.

99. Notwithstanding this compliance statement, IHSL became responsible for ensuring that the final design complied with the applicable guidance. As noted above, in January 2019 IHSL confirmed that the ventilation systems had been designed, installed and commissioned in line with SHTM 03-01. MML according proceeded on the basis that the final ventilation system design, including the EM, had been checked to ensure that it complied with the SHTM 03-01.

100. Throughout the project, MML's role did not involve conducting a line-by-line check to ensure compliance with the guidance. Graeme Greer (at para 8) explained that MML undertook sample reviews of aspects of the design but that IHSL was responsible for the design of the project. He noted in his evidence that this was due to the risk allocation in an NDP project; it came back to who was best placed to take the risk in such a project (page 13 of transcript). However, it was beneficial to NHSL for MML to do some level of review to assist in IHSL developing their proposals (page 15 of transcript). He noted that the level of review was consistent with that done by MML on other NPD projects. He also noted that this was in keeping with discussions that he had had with Brian Currie of NHSL, who had asked why they would employ MML to do the design if someone else had already been employed to do it (page 16 of transcript). Mr Greer confirmed that NHSL was aware that MML was doing a sampling exercise rather than an audit. Willie Stevenson (at paras 14 and 23) spoke to the reviews he conducted on the drafts of the EM produced by IHSL. He described this as a "sample review or spot check" not a "line-by-line check or audit". He noted that it would not have been

practical to conduct such a detailed check given the timescales involved. He stated that they would take care not to make suggestions that might lead to MML becoming designer by default as that was not MML's role. In evidence he noted that there were over 1,100 lines in the EM and that a full line-by-line review of just the electrical information would take 2.5 days if he was uninterrupted and everything went smoothly: however, on the mechanical side there would be a lot more information to check (page 14 of transcript). After the Preferred Bidder was appointed, he noted that they will still perform sample checks which was because design responsibility lay with IHSL (page 14 of transcript). Colin Macrae also stated (at para 18) that it was not MML's role as Technical Advisor to do a line-by-line check of the EM – it was IHSL's responsibility to produce a compliant design. He would undertake "sample reviews" of each version of the EM produced by IHSL. The spot checks were aimed at ascertaining that the design development was progressing. He noted (at para 58) that the level of review he undertook on this project was in line with the reviews he used to undertake on other projects. He stated (at para 19) that he would be careful to avoid offering design solutions as MML was not the designer. In his evidence he suggested that, after the preferred bidder was appointed, his reviews got "more focussed" (page 14 of transcript). He described this as looking for anomalies, although it was done at a "fairly high level" (page 15 of transcript). He noted that a line-by-line review would be time consuming and very onerous. In any event, as he would not have expected the EM to be finalised until after FC, he did not consider there to be any need for a detailed review of the EM at that stage. David Stillie advised that doing a full check of the design from the architectural perspective would have been a huge job: once the design was developed there was a huge volume of information which would make it "well nigh impossible" to do a line by line check (page 23 of transcript). To adopt the words at paragraph 320 of CTI's submission to detect the sort of issue which arose with the EM would require a disproportionate duplication of technical expertise at undue cost.

101. MML's position regarding the level of checking of the EM that would have been feasible was supported by the evidence of Stewart McKechnie, who is arguably best placed to comment on the matter. His evidence that was that there were 50,000 entries on the EM so there was a limit on what could be done by way of reviewing the matrix: he would only look at the "key parameters" (page 40 of transcript). He stated that, to check every single parameter in the EM for compliance with guidance would have taken

"months of work" and it would be almost like reinventing the EM (page 41 of transcript). He described the task as "impossible" (page 44 of transcript). Similarly, when it was suggested to Ken Hall that IHSL ought to have carried out a detailed review of the EM he considered that this would "not have been possible", a "very difficult job" and a "highly unreasonable request" (page 72 of transcript).

102. This understanding of MML's role is consistent with the evidence of Peter Henderson from HFS who stated (at para 45) "For an external body to carry out a full check for compliance with all relevant guidance it would require the employment of a full shadow design team. (This level of involvement could potentially diminish the level of liability of the original designer)." MML was not employed to be a full shadow design team. Although Ken Hall's statement (at para 43) suggests that MML were "resourced almost like" a shadow design team, that does not mean that they were one. In her evidence Janice MacKenzie of NHSL stated that she would not agree with the suggestion that MML was a shadow design team as she did not think they were there to design (page 12 of transcript). Willie Stevenson expressed the view that MML was definitely not a shadow design team and had no design responsibility whatsoever on the project (page 9 of transcript). David Stillie stated that he did not at any time consider that MML were anything like a shadow design team (page 23 of transcript). Graeme Greer explained that MML definitely did not have a design team working on the project (page 14 of transcript). He noted that this was due to the risk allocation in an NDP project; it came back to who was best placed to take the risk in such a project. Richard Cantlay explained that the term "shadow design team" is not terminology that he would associate with a revenue funded project due to the arrangements concerning where design risk sits (page 28 of transcript).

103. MML's position regarding the nature of the checks conducted by it appeared to be disputed by Liane Edwards who spoke to very detailed comments coming back regularly (page 14 of transcript). She did not consider MML to be conducting light touch, sample reviews. However, Ms Edward's role related to architectural matters, not to M&E. The specific examples provided by her (such as the size and number of screws or the colour of cladding) had no bearing in M&E matters. The evidence from MML witnesses regarding conducting sample reviews related primarily to M&E matters, particularly the EM, not to architectural matters. Accordingly, Ms Edwards'

recollections regarding the detailed nature of MML's review of matters that she was involved in have no obvious bearing on the extent of MML's reviews of the EM. Similarly, although Paul Serkis commented on the level of detail in MML's review of documents submitted by IHSL, this related specifically to the PCPs, not to the EM. Although he claimed (at para 46 of this statement) that NHSL/MML were "changing the fundamentals… altering the basis of the bid which they had accepted", in his evidence he could not provide any examples (page 24 of transcript): in any event, this comment did not seem to relate specifically to M&E aspects and/or to the EM. For what it is worth, this issue was not explored with Ken Hall, who would be better placed to comment on the extent of the comments provided by MML on the EM. Further, there is no documentation before the Inquiry vouching the proposition that MML provided sufficiently detailed and voluminous comments so as to undermine the clear evidence of those involved for MML that these were not the product a line-by-line review. The one set of comments that has featured in evidence (found at bundle 4, page 275) does not offer much insight into the extent of review that led to its creation.

104. In his evidence, John Ballantyne asserted that he saw MML as checking PCPs to ensure compliance with the BCRs (page 30 of transcript) but did not provide any explanation of the basis upon which MML would be undertaking such a task. He claimed that MML was reviewing submissions line-by-line, but it is unclear how he would be in a position to comment on what MML were doing as he was not part of MML's team.

105. The issue with the ventilation in Critical Care was not readily apparent from a review of the EM. Michael O'Donnell did not spot the error when he signed off on the EM. He stated (at para 29) that "the cover guidance notes and room function reference sheet probably gave a reassurance to anyone upon initial view that important parts of the guidance are captured, resulting in no actual digging into the individual cells…" In his evidence he noted on reflection that the RFRS may have "blinded him" from seeing the entry in the department sheets (page 42 of transcript). In his view, someone reviewing the EM would probably have looked at the RFRS and "gone with that". Indeed, Stewart McKechnie claimed (at para 24) that the EM "did accord with SHTM 03-01" and (at para 26) that "it did not appear to be a mistake". Having regard to these considerations, it is understandable that somebody conducting a sample review or spot check of the EM would not notice the error.

Findings and Potential Recommendations

106. The Chair is invited not to make the finding suggested at paragraph 304 of CTI's submission. For the reasons set out above, on a proper reading of the Project Agreement, there was no ambiguity in relation to whether the ventilation system required to fully comply with SHTM 03-01. It is plain from numerous provisions, not just paragraph 2.3 of the BCRs, that compliance with SHTM 03-01 was required. In particular, on a full reading of paragraph 8 and 8.1 (which were not subject to the qualification in paragraph 2.3 concerning any "specific and different requirement"), compliance with SHTM 03-01 was mandatory. The Chair is invited to make a finding to that effect.

107. The Chair is invited not to make the finding suggested at paragraph 305 of CTI's submission. MML accepts that the procurement documentation did contain some potential ambiguities and inconsistences. However, when the provisions are viewed as a whole, it is clear that the EM was not intended to be mandatory. In any event, the subsequent actions of the parties make it clear that there was no real confusion. The Chair is invited to make a finding to that effect.

108. The Chair is invited not to make the finding suggested at paragraph 307 of CTI's submission. Although the reference design team was ring fenced from the procurement exercise, there was no evidence to suggest that this meant that "the problem was exacerbated". There was no evidence that any of the bidders wanted to "discuss matters with the engineers that produced the Environmental Matrix". Had they been able to do so, there was no evidence that they would have discussed any of the matters mentioned towards the end of paragraph 307. Any supposed effect of the reference design team being ring fenced is purely hypothetical. In any event, had bidders wished to clarify the matters mentioned towards the end of paragraph 307, they could have done so by asking NHSL or MML.

109. The Chair is invited not to make the finding suggested in the third and fourth sentences of paragraph 310 of CTI's submission. MML accepts that the procurement documentation did contain some potential ambiguities and inconsistences. However,

when the provisions are viewed as a whole, it is clear that the EM was not intended to be mandatory. In any event, the subsequent actions of the parties make it clear that there was no real confusion.

110. The Chair is invited not to make the finding suggested in the final sentence of paragraph 310 of CTI's submission. The available evidence directly contradicts this suggested finding. Any supposed confusion regarding the status of the EM had no causative effect in relation to the problems that arose with the ventilation system. Stewart McKechnie's position (at para 24) is that "the EM did accord with SHTM 03-01" and (at para 26) that 4ac/hr in Critical Care "did not appear to be a mistake". Accordingly, it would not have mattered whether the reference design EM was mandatory or not: IHSL/WW would not have made any changes to the relevant entries because they considered them to be correct. To adapt the language of the proposed finding, had the status of the document been made clearer, the problems would have occurred in any event due to Mr McKechnie's interpretation of SHTM 03-01.

111. The Chair is invited not to make the finding suggested at paragraph 311 of CTI's submission. The wording of the opening sentence is potentially misleading and does not accurately reflect the evidence. Although a "more intense review" could potentially have identified the issues, the available evidence suggests that a review of sufficient intensity to have identified the issues would not have been practical. The Chair is accordingly invited to make a finding that "The tenderers' confirmation that their design complied with the BCRs for the purposes of evaluation criterion C21 was taken as face value. The tender evaluation process was carried out in accordance with the agreed methodologist set out in the Final Tender Evaluation Manual and Supplementary Guide. It would have been wholly disproportionate and prohibitively expensive to conduct a review of the tender submissions that would have been of sufficient intensity to have identified the issues with the EM."

112. The Chair is invited not to make the finding suggested in the first sentence of paragraph 312 of CTI's submission. MML was not appointed to "design" the ITPD; nor was it appointed to "confirm" the reference design complied with published guidance. A more accurate wording would be "At the procurement stage, NHSL appointed technical advisers whose responsibilities included developing the technical components of the

ITPD and checking the reference design for compliance with all appropriate NHSL and legislative guidelines and requirements."

113. In relation to the matters raised in paragraph 313 of CTI's submission, the Chair is invited to conclude that conducting a detailed review of the EM would not have been a reasonable option for the reasons set out above.

114. The matters raised in paragraph 313 of CTI's submission are reflected to some degree in the Executive Summary at paragraph 9. However, paragraph 9 goes on to suggest that, had H&K "been asked to refresh the statement of compliance, there is a possibility that the errors could have been spotted." For the reasons set out above, there is no evidential basis to support the contention that the outcome would have been any different had a further statement of compliance been sought in September 2012.

115. MML accepts the position set out in paragraph 315 of CTI's submission. However, the manner in which this matter is set out in the Executive Summary at paragraph 8 of CTI's submission is ambiguous. For the avoidance of doubt MML submits that the error in the cells of the EM was a genuine mistake. However, the fact that this was not detected by NHSL or MML before the contract was signed could not properly be considered to be a mistake because neither NHSL nor MML could reasonably have been expected to have detected the error.

116. Finally, it is understood that the Inquiry is, at this stage, concerned only with events up to the stage of Financial Close. Nevertheless, it is likely that there will be documents and oral evidence relating to the period post-dating Financial Close which will have a bearing on the issues currently under consideration. For example, at paragraphs 55.5.7 and 55.14 above, reference is made to documents which may shed light on the position prior to Financial Close. In short, the Inquiry may wish to explore why, if IHSL believed the EM to be mandatory, they changed it in material respects, and why they certified compliance with SHTM 03-01. It will be recalled that MML made an application to explore these issues in cross-examination. While the reasons why that application was refused are readily understood, it is respectfully suggested that the Inquiry may wish to consider whether it is safe to make factual findings on certain issues at this stage, without yet having had the chance to consider later events, which might impact upon the understanding of the period currently under consideration.