Sandwell and West Birmingham Hospitals NHS
NHS Trust

Midland Metropolitan Hospital

Final Business Case

January 2016

Appendices Volume 2

Where EVERYONE Matters

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APPENDIX 9a – TRUST BOARD PROCUREMENT OPTIONS APPRAISAL: JANUARY 2015

13 Jan 2015

MIDLAND METROPOLITAN HOSPITAL (MMH) PROCUREMENT OPTIONS APPRAISAL

1. PURPOSE

1.1 The purpose of this paper is to:

- enable the Trust Board to re-assess and determine the optimal route to procuring the MMH given that only one single bidder submitted an interim bid in the existing PF2 procurement process (Part A); and

- to advise the Trust Board in detail how, if the Trust were to continue with the existing PF2 procurement, best value for money could be achieved and demonstrated, in a single bidder environment, from the interim bid submission on 12 December 2014 until the appointment of Preferred Bidder (Part B).

PART A

2. INTRODUCTION

2.1 The Trust is following a PF2 process to procure the MMH. The Outline Business Case (OBC) was approved in July 2014 with an advert posted in the OJEU in the same month. The competitive dialogue phase commenced with 3 bidders. However, one of the bidders withdrew following the issue of the Invitation to Participate in Dialogue. Only one bidder (Carillion) submitted an interim bid, under competitive conditions, by the deadline of 12 December 2014. This interim bid submission has been evaluated by the Trust as compliant and 'above the line'.

2.2 The Trust's advisor, Deloitte, conducted a qualitative analysis of PF2 (with £100m of Public Dividend Capital (PDC)) versus the Public Sector Comparator (PSC), funded entirely with PDC, at the Outline Business Case (OBC) stage. This analysis has been reviewed by Deloitte (at Appendix A) to identify the differences in a single bidder situation. The single bidder scenario has a limited impact on the most of the conclusions reached at OBC. However, it is clear that the significant difference is the lack of competitive pressure from other bidders.. The PF2 procurement route normally features competition through to Preferred Bidder rather than just as far as the interim bid submission.

2.3 The Trust's legal advisors have confirmed that continuing with the existing procurement with a single bidder is legal. However, notwithstanding this, the Trust Board will now wish to re-assess and determine which procurement route is the optimal means of achieving the Trust's objectives, including securing value for money, given that the remainder of the procurement would not be subject to direct bidder competition. An option appraisal and recommendation of the way forward has been conducted in order to enable this re-assessment.

2.4 This appraisal has taken account of the feedback provided by the DH and HMT (18 December 2014) in response to the Trust's draft procurement option appraisal 10 December 2014. The points raised in this feedback are at Appendix B.

3. THE TRUST'S OBJECTIVES

3.1 MMH is critical to the Trust's strategy of concentrating complex care, acute inpatients and emergency services into a single acute inpatient hospital. The Trust's key objectives in procuring this are to:

- procure a MMH which is fully functional, high quality and enables delivery of the Trust's strategy and service model;
- ensure that MMH is operational by 2018 so that the clinical and financial benefits are secured in accordance with the Trust's long term plan;
- procure MMH within the Trust's affordability envelope;
- conduct the procurement within an acceptable risk profile, managing risks such as construction delay, cost inflation, securing approvals and funding.

3.2 The Trust operates acute services over two sites. Since the original Strategic Outline Case for the Midland Metropolitan was approved in 2004, a series of reconfigurations have taken been necessary to sustain the safety of emergency services. These include:

- Single site paediatric admissions to Sandwell (2007)
- Large-scale reconfiguration of general surgery and orthopaedics (2009)
- Single site maternity services to City (2011)
- Single site gynaecology admission (2012)
- Single site stroke services (2013)

3.3 These reflect the impossibility of sustaining workforce across multiple rotas, and the related difficulty of recruiting skilled clinicians, with a sub-optimal configuration. The majority of hospitals within a five / ten mile radius, with whom SWBH competes for post West Midlands rotation clinicians, have settled configurations based on new hospital developments.

3.4 Commencing in early January 2015, the Trust and CCG will engage local residents on the latest urgent reconfiguration. This will:

- Migrating interventional cardiology onto the City site (July 2015)
- Closing remaining acute surgical facilities at City and relocating to Sandwell (foregoing trauma unit status in the process). This will also be implemented in spring 2015.

3.5 In a pre-Midland metropolitan Hospital position the Trust is left with:

- Dual site medical wards for adults
- Dual site critical care
- Dual site adult and paediatric A&E departments (which do not meet expectations around the care of critically ill children)
- Dual site 24-7 imaging and pathology
- Split site configuration for desirable adjacencies (for example, lower abdomen investigation for both gynaecology and general surgery)

3.6 The timing question is twofold:

- How much longer can this model be afforded by the local health economy?

- How much longer can manpower be retained which permits this model to be safely sustained?

3.7 The Risk Register entry flagged consistently throughout 2013 and 2014 relates to A&E staffing. This appears the most likely position to reach a moment of crisis. The documentation on manpower cover would suggest a need on a dual site basis for 18 whole time equivalent (WTE) consultant A&E doctors. At time of writing there are 12.6 WTE consultants, including locums. Of this team, two will have left by March this year creating a gap of 7.4 wte. Rolling recruitment since 2013 has succeeded in making two appointments to date, which are contained within these figures and replace prior resignations/retirements. This leaves both A&E departments with 86 hours no on site consultant level cover (a figure probably consistent with many departments without MTC status). However, less comparably for 30 hours a week only one consultant is supporting the department. Either a failure to improve our recruitment or further resignation or retirement will rapidly move the Trust to a position where, certainly overnight, two A&E departments cannot be sustained. By the nature of the factors involved this would occur rapidly and relatively unpredictably.

3.8 The question is therefore less whether 2018 is preferable to 2019, and more whether the Trust can sustain services through to 2018. Evidence from Stafford General Hospital's move to a daytime and twilight A&E department illustrates the impact of change on other surrounding Trusts. The scale of services at either City or Sandwell is much more sizeable than Stafford and one might expect the impact to be far greater.

3.9 The only prescriptive timing issue imposed on the process by the Trust's Board is a firm commitment not to close A&E departments and relocate services during winter months. For purposes of planning this has been taken to ring-fence November – early March. Accordingly, plan B assumptions regarding relocation in 2019, assume May or June transfer. The resultant 9 month impact on costs, including delay of savings, revisiting of CCG transitional funding, and cost inflation on construction are included in option appraisals, as they have been throughout the business case process.

4. OPTION APPRAISAL CRITERIA

4.1 Given the Trust's objectives, the criteria to assess which procurement route is most advantageous are:

- The quality of the solution, including functionality, build quality and design – which is fit for purpose for the long term;
- Timescales for delivery – to enable sustainability in the short term;
- Affordability, taking into account both project costs and operational costs impacted by the scheme e.g. costs of running 2 A&E departments;
- The risks to the Trust - other than those that would transfer to a private sector partner (these will be taken into account in the Value for Money (VfM) assessment);
- VfM of the PF2 procurement route compared with a public sector procurement route.

5. OPTIONS

5.1 The option of re-procuring with PF2 has been discounted given that this would be likely to result in a similar or worse outcome. The market is unlikely to have improved significantly

so recently after the current procurement. Therefore, there are 2 main options for the Trust to procure MMH, either to:

- abort the existing procurement and re-procure with a conventional public sector approach such as 'P21+' or 'Design and Build'; or,

- continue with PF2, with additional measures to mitigate against the potential implications of a single bidder scenario.

6. RE-PROCURE WITH A PUBLIC SECTOR PROCUREMENT APPROACH

Scope

6.1 The Trust's cost advisor, Sweett, has provided a report at (Appendix C) considering the different options of public sector procurement available to the Trust, namely:

A. Traditional single with quantities
B. Traditional single stage design and build
C. Traditional two-Stage design and build
D. ProCure21+ (P21+)

6.2 All of these options are limited to the construction of the hospital and would be dependent upon public sector funding, in the form of public dividend capital. The Trust would take responsibility for lifecycle and hard FM.

6.3 Option A is dismissed due to the time delay and because no risk can be transferred to the private sector.

6.4 Option B is discarded due to being unattractive to providers in the current market.

6.5 Option C, is attractive to bidders in the current market given lower bid costs. The Trust would set out its requirements asking the market to price a stage one return which would typically comprise: preliminaries and establishment charges; margin; pre-construction design and build-ability activities; risk (depending on the scheme information available); and contingency provision.

6.6 The second stage involves designing and pricing all the subcontract works trade packages based on competitive quotations which, when aggregated with the stage one tender, will form the basis of a lump sum contract or a guaranteed maximum price (GMP).

6.7 Option C has the benefit of fitting closely with public procurement recommendations to involve the contractor in the design and planning of the project before commencing on site in order to minimise risks.

6.8 Option D uses an established framework that has already been through a European Union procurement process and therefore there is no requirement to undertake a project specific OJEU process. There are six contractors on this national framework: Balfour Beatty; Galliford Try; Integrated Health Projects; Interserve; Kier; and Willmott Dixon. Carillion is not registered on the framework. P21+ is essentially a two-stage design and build methodology, but to some extent the first stage has already largely been completed by the DoH and the methodology comes with a package of additional measures and mandatory protocols designed to reinforce risk management and programme and cost control.

6.9 This procurement route carries many of the benefits of traditional two stage design and build but allows for an earlier contractor selection and more collaborative working. The P21+ process requires both the contractor and the Trust to engage in an open discussion on project risks and work through a commercially bankable allocation of risk to carry forward to the construction stage.

6.10 The preferred contractor is selected through a standard process based on experience, proposed team, innovative proposals etc. but not price, as the framework rates for Overheads and Profit and hourly charge rates are already established within the framework. Within 4 – 6 weeks of selection, the preferred contractor reviews the Trust's budget / cost plan and has to commit to developing the scheme within the agreed Affordability Cap. A Guaranteed Maximum Price (GMP) is established through market testing and open-book tendering of works packages. There is no contractual stipulation as to what level of market testing is completed before the GMP is finalised but common aspiration is for 80% of the value to have been market tested in order to demonstrate value for money.

6.11 The Trust can benefit from any cost reductions which may arise through further market testing / package tendering below the agreed GMP sum. Any savings of up to 5% below the GMP are shared 50:50 between the Trust and the PSCP. Savings greater than 5% are taken fully by the Trust.

6.12 The preferred contractor is paid for its work in developing the scheme and market testing through to agreement of the contract sum. Payment is based on time charge rates at the P21+ framework rates but, again, within a pre-determined cap established at the appointment of the PSCP for the pre-construction phase.

6.13 The Trust would choose a P21+ over the 2 stage design and build due to the shorter programme length. Discussions with an expert practitioner on P21+ at Sweett have concluded that it is possible to use P21+ for the procurement although it is unprecedented for it to be used for a single phase new build of this scale. For example, whilst the hospital project at Brighton is at a large scale, it is being delivered in multiple phases.

Guaranteed maximum price (GMP)

6.14 The features of the GMP are:

- the GMP / contract sum is fixed with up to 80% of the net construction value being subject to market testing;
- through gain-share arrangements, the Trust can benefit from the full market testing of sub-contract packages if the aggregate comes within the agreed GMP;
- the contract sum is a GMP which can also potentially generate gain-share savings back to the Trust should the total actual cost be less than the contract sum.

Approach

6.15 The Trust would need to terminate the existing procurement, giving notice of that decision promptly to the Bidder in order to not mislead the Bidder into incurring further bid costs.

6.16 The intention would be to negotiate with Carillion to purchase the design and use that as the basis for the P21+. Alternatively, the Trust would use the exemplar design, although

this would create additional delay given that there remain a number of design issues which would need to be resolved.

6.17 A business case would need to be prepared for approval before the scheme was tendered which could result in a preferred contractor being appointed in November 2015.

Programme overview

6.18 An outline programme has been provided by Sweett at Appendix D. Work would be expected to commence on site in February 2017, resulting in MMH being operational in October 2019 – 12 months later than the Trust's requirement. This estimate of programme delay is on the basis of a best case scenario and in particular allows no contingency for delay in approvals, design or construction.

Risks

6.19 The risks specific to this procurement approach are that:

- the Trust would not secure the necessary public sector funding;
- there is a risk that in the event that the Trust had to use its exemplar design as the basis for scheme, additional time would be required to resolve the design issues, causing further delay;
- there is a risk that the P21+ construction programme will be longer than the 31 months assumed. This is particularly due to the lack of competitive pressures in the procurement process. In contrast, the 31 month Carillion construction programme was proposed in competition and a 33 month option with reduced risk premium was also offered. A delay of 2 months would result in the hospital becoming operational in the winter period, which would be unacceptable to the Trust, resulting in effectively a 6 month delay until the spring the following year;
- the Trust may need to pay bid costs to Carillion which are c.£1.9m. It is expected that the bidder would claim for costs given that its bid is compliant. Under Bates' Review, bidders in schemes which have been aborted as a result of public sector decisions have submitted claims for costs, particularly when a viable bid has been presented. Policy has been to meet such claims e.g. Leicester, Colchester.

7. CONTINUE WITH EXISTING PF2 PROCUREMENT

Scope

7.1 This option is to complete the remainder of the existing procurement with a single bidder. This presents both a challenge and an opportunity. The challenge is to continue to improve the quality of the solution at a competitive price, despite only having a single bidder. Ordinarily, the procurement process would use the pressure of competition to achieve this. However, there is also an opportunity to review the remainder of the procurement programme, given that there is now only a single bidder, to establish if any tasks can be completed earlier.

7.2 Therefore, this option includes mitigations against the consequences of a single bidder scenario as well as an improved programme to take advantage of a simpler procurement process. The Trust has engaged with Carillion to these mitigations and take advantage of a shortened procurement. This is outlined below and detailed further in Part B.

Price certainty at Preferred Bidder

7.3 The features of price certainty are:

- the GMP / contract sum is fixed relatively early compared with P21+ and are therefore at a higher level, requiring greater reliance on benchmarking;
- any benefit of the full market testing based on more detailed and developed designs pass to the Contractor rather than the Trust;
- the contract sum is a fixed sum on which the contractor takes the risk of delivery.

Risks

7.4 Proceeding with the PF2 route presents a number of risks specific to that procurement option:

- The quality of the solution may be compromised in the absence of ongoing competition;
- The Trust may not be able to secure and demonstrate VfM in the absence of ongoing competition;
- The Trust is exposed in the event that, for whatever reason, a deal with Carillion cannot be reached given that there is only a single bidder. This final risk is assessed as low given the financial commitment already made by Carillion.

Mitigation to drive quality

7.5 The Trust would require that the concerns identified in the evaluation of the interim bid submission are satisfactorily resolved early in the next stage of the competitive dialogue. Satisfying this 'quality hurdle' would be necessary in order to achieve a compliant bid.

7.6 Additionally, metrics would be established to measure quality and the quality / cost ratio. An improvement in these metrics would be required at each subsequent bid.

Mitigation to securing and demonstrating maximum competition

7.7 In order to achieve maximum competition, the Trust's cost advisors would provide the following support to ensure that as much of the bid as possible was priced competitively:

- Cost modelling to compare with the Public Sector Comparator and / or another relevant scheme such as the Royal Liverpool Hospital (also being constructed by Carillion);
- Monitoring the Carillion's cost plans to ensure that costs are contained within the limits set out in the interim bid;
- Use of open book accounting to ensure that movements in elemental costs are transparent, understood and accepted by the Trust;
- Providing assurance that at least 80% of the value of the scheme is market tested through having sight of market testing and tendering information.

Invitation to Participate in Dialogue (ITPD)

7.8 The ITPD would be revised and formally re-issued to Carillion to require it to comply with the above measures to drive quality and competition.

Revising the programme

7.9 It is expected that Financial Close could be achieved in December 2015 rather than in April 2016as a result of the remainder of there being a single bidder for the remainder of the procurement. This would not alter when the hospital would become operational due to the overall length of the construction programme remaining unchanged and the site not being available until December 2015. However, there would be the opportunity to reduce the unitary payment and improve VfM.

7.10 The evaluation of the options is based on the costed interim bid submission which assumes Financial Close in April 2016. The revised programme is developed further in Part B.

8. APPRAISAL

Assessment against criteria

Criteria	PF2	P21+
Quality of solution	Current solution evaluated as compliant and 'above the line' with plan in place to address Trust's 'red issues'. PF2 contract incentivises private sector to deliver integrated design which takes account of lifecycle and is inherently more efficient to run.	Reasonable to expect that the solution would be 'above the line'. Trust takes risk on functionality, ongoing maintenance and fabric of the building. Therefore incumbent on Trust to integrate the design with lifecycle considerations.
Delivery timescales	Operational by October 2018	Operational by October 2019
Affordability	Affordable with overall CSRR of 4 and £11m surplus forecast in 2020/21	Affordable with overall CSRR of 4 and £8.3m surplus forecast in 2020/21
Risks	The Trust may not be able to drive the quality of the solution to the extent that would have been possible under ongoing competition. However, the bid is currently 'above the line' and resolution of the outstanding areas of concern would be a condition of continuing the procurement. The Trust may not be able to secure and demonstrate that it has the best price. However, this would be largely mitigated through the additional measures proposed. There is a risk of the single bidder withdrawing / failing to provide a compliant bid. This is assessed as low given that the bidder already has sunk bid costs of £1.9m and is expecting to commit a further £3.8m before financial close.	There is a risk that the Trust would not secure the necessary public funding. There is a risk that more time would be required to address the design issues in the exemplar design, adding further delay, if the Trust did not buy the design from Carillion. There is a risk that the construction programme would take longer than the assumed 31 months due to the lack of competitive pressure. Clearly the Trust would have the risk of the functionality and availability of the hospital and the ongoing maintenance. However, this has been priced into the VfM comparison below. There is a risk of needing to pay bid costs to the current bidder which are c.£1.9m. It is expected that the bidder would claim for costs given that its bid is compliant.
VfM	A quantitative analysis shows that the PF2 option is 19.1% better value for money than the P21+ option. The PF2 option has a total risk adjusted NPV of £366m.	A quantitative analysis shows that the PF2 option is 19.1% better value for money than the P21+ option. The P21+ option has a total risk adjusted NPV of £434m.

Quality comparison

8.1 Carillion has submitted a compliant interim bid to the Trust which would be required to improve further given that would be a condition of continuing the procurement. However, a P21+ approach could yield a similar quality scheme and so the consideration regarding quality is inconclusive.

Timescale comparison

8.2 Analysis identifies that a P21+ procurement route is likely to deliver an operational MMH by October 2019. This delay from the Trust's procurement objective of October 2018 would create significant operational, clinical and financial challenges. The delay would be at least 12 months as summarised below.

Event	**PF2 Base Option (31m construction overall)**	**P21+ (31m construction overall)**
Business Case Prepared	Completed	April 2015
Business Case agreed	Completed	August 2015
Tender Documentation prepared	Completed	October 2015
Preferred Contractor process	n/a	November 2015
Appoint Preferred Contractor	n/a	December 2015
Design Process complete	August 2015	September 2016
GMP / Fixed Price agreed	August 2015	October 2016
FBC/ CBC Approval	April 2016	December 2016
Advanced Works commence	December 2015	n/a
Start on Site	April 2016	February 2017
Handover	July 2018	August 2019
Operational	October 2018	November 2019

Affordability comparison

8.3 Affordability as measured by reference to the Continuity of Service Risk Rating (CoSRR) is not a differentiating factor between an updated PF2 or prospective P21+ route. Each route provides for an affordable solution and improved affordability over the extant PF2 model all other things being equal.

Summary Affordability Assessment: Based Upon Resultant Continuity of Service Risk Rating Position

June IBP Version	Forecast 2014/15	Forecast 2015/16	Forecast 2016/17	Forecast 2017/18	Forecast 2018/19	Forecast 2019/20	Forecast 2020/21	Forecast 2021/22	Forecast 2022/23
CSRR Liquidity Ratio Score	3	2	4	4	4	3	3	4	4
CSRR Capital Servicing Score	3	4	4	4	1	2	2	2	2
OVERALL Continuity of Service Risk Rating (CSRR)	**3**	**3**	**4**	**4**	**3**	**3**	**3**	**3**	**3**

Refreshed Pf2 UP Terms on Affordability	Forecast 2014/15	Forecast 2015/16	Forecast 2016/17	Forecast 2017/18	Forecast 2018/19	Forecast 2019/20	Forecast 2020/21	Forecast 2021/22	Forecast 2022/23
CSRR Liquidity Ratio Score	3	2	4	4	4	4	4	4	4
CSRR Capital Servicing Score	3	3	4	4	1	3	3	3	3
OVERALL Continuity of Service Risk Rating (CSRR)	**3**	**3**	**4**	**4**	**3**	**4**	**4**	**4**	**4**

P21+ Impact on Affordability	Forecast 2014/15	Forecast 2015/16	Forecast 2016/17	Forecast 2017/18	Forecast 2018/19	Forecast 2019/20	Forecast 2020/21	Forecast 2021/22	Forecast 2022/23
CSRR Liquidity Ratio Score	3	2	1	2	4	4	4	4	4
CSRR Capital Servicing Score	3	4	4	4	3	3	3	3	4
OVERALL Continuity of Service Risk Rating (CSRR)	**3**	**3**	**3**	**3**	**4**	**4**	**4**	**4**	**4**

Overall Movement in Rating from June IBP									
Refreshed Pf2 V June IBP	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**1**	**1**
P21+ Route v June IBP	**0**	**0**	**-1**	**-1**	**1**	**1**	**1**	**1**	**1**

Risk comparison

8.4 The risks of the 2 procurement options are distinct. The main risk of continuing with PF2 is that the Trust will not be able to demonstrate a fully competitive price, despite the mitigations. However, the Trust would not be able to demonstrate a fully competitive price in a P21+ procurement either. Furthermore, there are additional risks of being able to secure the level of public funding or a private sector partner to deliver the scheme. Overall, the risk profile of the Public Sector Procurement is assessed as higher than that of continuing the existing PF2 procurement.

VfM comparison

Output Summary

Option	NPV of project cost	NPV of risk retained by Trust	NPV of Additional Costs incurred as a result 12mth delay	Total risk adjusted NPV	Risk Retained	Risk Transferred vs PSC	VFM % Compared to PSC	VFM % Compared to P21+
PF2 (ISOS Submission)	411,025,360	20,317,308	0	431,342,668	4.9%	28.1%	4.8%	4.9%
PF2 (ISOS Submission updated for current funding terms)	346,436,946	20,317,308	0	366,754,255	5.9%	27.1%	19.0%	19.1%
P21+ (PSC + 12 mth delay)	322,332,826	112,396,810	18,637,689	453,367,325	34.9%	n/a	n/a	0.0%
Memo: PSC Updated								
PSC (capital costs etc)	340,652,166	112,396,810	0	453,048,976	33.0%	0.0%	0.0%	n/a

8.5 The Trust's corporate finance advisor, Deloitte, has updated the quantitative value for money assessment shown in the OBC.

8.6 Line 1 above shows the Net Present Value (NPV) both before and after risk adjustment of the base interim submission from Carillion. It should be noted that the interest rates in the Carillion financial model in the interim submission were based on a Trust issued term sheet based on the Alderhey bid. Rates have subsequently improved.

8.7 Line 2 is based on a model which shows the effect of applying current market rates to the interim submission base case. This is obviously a considerable improvement over Line 1.

8.8 Line 3 is a new option which has been constructed by assuming a P21+ option using the capital (and other) costs from the Carillion interim bid, one year in arrears. We have also added an estimate of costs of delay.

8.9 Line 4 shows the PSC which was in the OBC (and will be in the ABC). This is also known as the exemplar design. The capital expenditure has been inflated in accordance with current indices.

8.10 The figures in the table are derived from detailed risk registers.

8.11 The VfM assessment shows that the adjusted PF2 option on line 2 is 19.1% better value than the P21+ option on a NPV basis. This takes into the account the value to the Trust of the risk transfer to Carillion. It also shows that the adjusted PF2 option is VFM compared to the PSC by 19%. This will be relevant as the calculation is required in the ABC.

Qualitative analysis

8.12 A qualitative analysis (at Appendix A) was undertaken by Deloitte for the OBC and this has been reviewed to establish the extent to which it relied upon market competition. The analysis highlights that in 1 out of the 40 sections, additional measures will be required to compensate for the lack of competitive pressure. This relates to the desire to introduce innovation into the design and the provision of services. Innovation has already been evidenced in the interim bid submission and the Trust would require all of the remaining concerns regarding the design and service provision to be addressed in order for subsequent bids to be compliant.

Conclusion

8.13 The PF2 option is assessed as meeting all of the Trust's procurement objectives. Whilst not as favourable as a competitive situation through to Preferred Bidder, the mitigations are expected to secure and demonstrate a sufficiently competitive price and drive a quality solution.

8.14 The P21+ option will not meet the Trust's objective of delivering an operational hospital by October 2018. Furthermore, such a procurement would have a higher risk profile than PF2 and the value for money analysis demonstrates that it is not as favourable as the PF2 approach.

8.15 The conclusion of the analysis is that the PF2 option is preferable due to a lower procurement risk profile, better VfM and an earlier delivery timescale, which meets the Trust's requirement of October 2018.

9. RECOMMENDATIONS

9.1 It is recommended that the Trust Board continues with the existing PF2 procurement. The analysis to compare it with the alternative P21+ shows that, whilst not risk free, it is preferable.

9.2 If the Trust Board selects this option, the next steps are to put in place the mitigations described and confirm a new procurement timeline with Carillion and the Trust's approval bodies. The approach to this is set out in Part B.

9.3 The Trust Board is requested to agree to this approach, including the issuing of the revised Invitation to Participate in Dialogue at Appendix H.

PART B

1. INTRODUCTION

1.1. Part A addresses the question of whether the Trust should continue with the existing PF2 procurement or re-procure using an alternative approach. This Part B describes how the Trust would complete the existing PF2 procurement, if that is the option selected by the Trust Board.

2. ASSESSMENT OF THE RISKS, ISSUES AND OPPORTUNITIES PRESENTED BY A SINGLE BIDDER SITUATION

2.1. The consequence of a single bidder for the remainder of the procurement poses 2 key risks and an opportunity:

- The lack of a competitive lever may compromise the ability to improve quality of the interim bid through to Preferred Bidder;
- The lack of a competitive lever may prevent the Trust from securing and demonstrating the best possible price;
- There is an opportunity to de-risk the programme by bringing financial close earlier, thus making Oct 2018 hospital operational date more viable and enabling better value for money.

3. APPROACH TO DRIVING QUALITY

3.1. In order to drive quality, the Trust will require that all concerns identified at the evaluation of the interim bid submission are addressed early in the next stage of the competitive dialogue.

3.2. Additionally, the Trust will require that the quality scoring achieved at the draft and final bids matches or exceeds that achieved at the interim submission.

3.3. The Trust will create a new metric of 'cost per benefit points' from Carillion's interim submission. This will be a product of the NPV of the unitary payment and an assessment of the quality, scored at bid evaluations. The Trust will require this metric to improve at each subsequent bid.

4. APPROACH TO ENSURING THAT COSTS ARE COMPETITIVE

4.1. The Trust has requested that Carillion provides a market testing strategy to demonstrate what level of market testing is possible without the market testing becoming part of the critical path of the procurement and thus delaying financial close. Carillion has provided a strategy (at Appendix F), which has been reviewed by the Trust's cost advisors, which shows that 81% of the value of the construction packages will be market using the following methods:

- True market lump sum
- True market test rates
- Subcontractor target cost / budget estimates
- Quality / capability evaluation with all in rate for sample scope of works
- Market testing of rates using other schemes and adjusting for inflation

4.2. It is intended that for each method 2 or 3 suppliers would be approached to provide a cost. As the scheme develops from the draft final bid submission (April 2015) to the final bid submission (July 2015) an increasing number of work packages would have been subjected to a rigorous approach, resulting in Carillion demonstrating that 80% of the construction cost had been tested.

4.3. Carillion will be required to demonstrate market testing as described above at both draft final bid submission and final submissions.

4.4. The Trust's cost advisor will provide support by:

- Cost modelling to compare with the Public Sector Comparator and / or another relevant scheme such as the Royal Liverpool Hospital (also being constructed by Carillion);
- Monitoring the bidder's cost plans to ensure that costs were contained within the limits set out in the interim bid;
- Using open book accounting to ensure that movements in elemental costs are transparent, understood and accepted;
- Providing assurance that at least 80% of the value of the scheme had been market tested through having sight of market testing and tendering information.

4.5. Additionally, the Trust has a financial hurdle in place based on the first year Unitary Payment (UP) and net present value of the UP over the contract life. Carillion will need to pass the hurdle at both draft final bid submission and final submissions.

4.6. Analysis of the unitary payment demonstrates that c.59% of its value will have been effectively subjected to competition given that 80% of the construction cost will have been market tested and that a funding competition will have been held in relation to the debt payments.

4.7. FM and lifecycle costs in the unitary payment will be benchmarked prior to Preferred Bidder. Lifecycle costs will be subject to early review by technical due diligence advisors. The Trust would propose requesting an amendment to clause 28 of the Project Agreement to require Project Company to competitively tender lifecycle costs.

4.8. Carillion will be required to competitively procure equipment and other non-pay items during the operational period in accordance with the Trust Standing Financial Instructions or some other agreed protocol and to evidence that to the Trust.

Breakdown of contract value in relation to competition and additional VFM mechanisms

4.9. A high level breakdown of the potential UP April 2013 value of £24.5m (£26.1m 2019/20) has been undertaken to establish how it is subject to competition. This highlights that around 40% of the Unitary Payment and indicates that the Trust needs to identify a robust approach to Lifecycle and FM.

Component	Amount (£m)	% of UP	Extent of competition	Additional mechanisms to drive VFM	Competed % of UP
Capital	9.4	38	32.5% of capital component assumed to be fixed as a result of the Interim Bid submission (12 Dec 14) being under competition (extent to which £9.4m has been subject to competition to be reviewed by Trust's advisors once Interim Bid received).	• Cost modelling • Monitoring the bidder's cost plans • Supply chain competition • Qualitative evaluation criteria	**12.4**
Senior debt	7.9	32	Competed		**32**
Equity (competed)	2.6	10.5	£1.1m of equity is competed and £1.5m is not.		**4.5**
Lifecycle	1.2	5		• Cost modelling • Monitoring the bidder's cost plans • Supply chain competition • Qualitative evaluation criteria	
Maintenance	3.2	13 (FM 10%, SPV incl Ins 3%)		• Cost modelling • Monitoring the bidder's cost plans • Supply chain competition • Qualitative evaluation criteria	
Other costs (bid)	0.2	1		• Open book accounting	
	24.5	**99.5**			**48.9**

5. DELIVERABLES REQUIRED FROM CARILLION

A summary of the mechanisms that the Trust will employ to drive and demonstrate VfM is shown below. These are detailed further in the draft ITPD.

Mechanism	Information / action required from bidder	Relevant information from other sources	Controls	Requirement for final bid to remain compliant	By When
Cost modelling – interim submission	Elemental breakdown in interim bid submission (12 Dec 14) to include Cost Plan figures for Preliminaries, Overheads and Profit, Contingency / Risk, Design Fees and Inflation. Bidder to provide information to demonstrate VFM of the MMH costs against those for the Royal Liverpool Hospital (RLH) which was awarded under competition.	Comparison with PSC elemental breakdown.	The elemental Cost Plan for the capex in the Interim Submission will be compared to that for the PSC to confirm that is it a favourable and acceptable basis to be fixed. Lifecycle and FM models will be scrutinised and benchmarked to confirm that they are an acceptable Cost Limit (and acceptable to lender TA requirements) within which to work during the CD4 stage. Trust QS advisor to work with the bidder to demonstrate VFM through reference to the RLH costs.	Total of elemental breakdown to be compared against December submission. All significant differences to be justified to the satisfaction of the Trusts QS advisors.	CD 5 submission (3 Jul 15)
Monitor bidder's cost plans	Bidder to commit to work within the capex, lifecycle cost and Hard FM costs within its Interim Submission (12 Dec 14) as Cost Limits for the next stage. Elemental Cost Plan for the capex to be the framework within which the		'Cost Check' submissions. Bidder to report updated costs (and an explanation of any variances) against the agreed elemental Cost Plan. Review Risk Register which	Cost plan not to exceed that within interim bid submission	CD 5 submission (3 Jul 15) Plus February April June

	design development will be managed through the next stage. Bidder to agree that Cost Plan figures for Preliminaries, Overheads and Profit, Contingency / Risk, Design Fees and Inflation will be fixed as 'not to be exceeded' values or percentages. (The values or percentages could be reduced at the next stage but not increased)		underpins the Contingency / Risk provision within the Cost Plan.		checkpoints
Open book accounting	Transparency of all sub-contracting arrangements, management fees and profit clearly identified.	Benchmarking of industry management fees and profit margins.	Transparency of all sub-contracting arrangements, management fees and profit.	Management fees and profit margins not to exceed the December 12 submission.	CD 5 submission (3 Jul 15)
Supply chain competition	80% of the net construction cost will be market tested / tendered transparently and evidence that the most economically advantageous tender has been chosen to be provided to the Trust.		Bid Deliverable to be added to require Bidder to supply evidence that at least 80% of the net construction cost has been market tested / tendered. (PASS / FAIL)	Demonstration that 80% of cost has been tendered as agreed.	CD 5 submission (3 Jul 15)
Qualitative evaluation criteria	Final bid deliverables.	Quality scores from interim submission	Bidder to match or exceed overall quality score for interim submission at (draft) final bids stage Quality / cost metric to have improved.	Bidder to achieve improved score for evaluation at Apr (Jul) 15 submission compared to Dec 14.	CD 5 submission (3 Jul 15)
RAG issues from Dec 14 evaluation to be resolved	Demonstration of how red rated issues carried forwards from Interim Bid evaluation have been resolved.	Ongoing RAG rated issues lists from CD4 boot camps	Bidder to resolve all red rated issues before the Trust closes dialogue.	RAG issues to have been resolved to Trust's satisfaction.	CD 5 submission (3 Jul 15)

6. REVISED PROCUREMENT PROGRAMME

6.1. There are potential benefits from a single bidder situation in respect of the programme. There are three main components to complete prior to preferred bidder: evaluation, due diligence and the Appointment Business Case (ABC). In the conventional programme, these run sequentially but in a single bidder situation this is unnecessary.

6.2. Therefore, an earlier financial close of December 2015 has been achieved through the parallel execution of the tasks post submission of draft final bids. Discussion with Carillion has indicated a willingness to undertake early planning and funding competition activities prior to the appointment of Preferred Bidder. It should be noted that this approach requires the approval of the ABC to be completed during May and June which will be the first two months of a new government. Following Closure of Dialogue a very short final bid / final review of due diligence and update to final ABC has been allowed.

6.3. The revised programme would still result in the hospital being operational in October 2018, despite financial close being 4 months earlier. This is because the overall construction programme is still 33 months and this cannot commence until the Trust's site remediation works have been completed in December 2015. However, achieving financial close earlier would provide options to reduce the proportion of the construction programme being undertaken as early works, thus avoiding the need to pay a premium to programme acceleration and reducing the risk to the programme. This would result in a lower unitary payment and improved VfM.Consideration was given to reaching financial close earlier than December 2015. However, this is not possible due to the time required for planning applications and the design phase. Consideration has also been given to delaying the Appointment of Preferred Bidder by a further 6 months in order to achieve an equivalent level of market tendering as P21+. However, such a delay would result in higher overall capital costs for the whole scheme as a result of inflation, which would be significantly more than any potential reduction in cost as a result of further market testing. The proposed programme provides the fastest possible route to securing financial close and also delivers 81% of market testing.

6.4. This programme will require validation from all parties, including approval bodies. A detailed copy of the programme is at Appendix G.

Summary comparison of current programme vs proposed programme

Milestone	**Current programme**	**Proposed programme**
Issue final ITPD	9 Jan 15	2 Feb 15
Draft final bid submitted	9 Apr 15	2 Apr 15
Closure of dialogue	30 Jul 15	25 Jun 15
Final bid submitted	7 Aug 15	3 Jul 15
Appoint Preferred Bidder	22 Oct 15	5 Aug 15
Financial Close	15 Apr 16	9 Dec 15
Construction commencement	18 Apr 16	4 Jan 16
Construction completion	20 Jul 18	13 Jul 18
Hospital fully open	15 Oct 18	8 Oct 18

7. PROCESS TO CONTINUE PF2 PROCUREMENT

7.1. To continue the procurement, the Trust will need to ensure that it remains in control of the process and that the necessary controls and mitigations are in place to address the potential implications of the single bidder scenario. The basis of the way forward will be set out in a revised Invitation to Participate in Dialogue (ITPD), which is at Appendix G.

7.2. The ITPD details the mitigations and therefore the additional requirements and deliverables that the Trust has of Carillion in order to achieve compliant bids. It also details the revised programme as described above. The ITPD will form the basis of the remainder of the procurement. Therefore it will be formally issued to Carillion who will then be requested to formally accept its terms. If Carillion subsequently fails to comply with the terms of the ITPD, the Trust will reserve the right to abort the procurement without recourse.

7.3. The Trust intends to work with Carillion to agree the provisions of the ITPD and will then engage with HMT, DH and NTDA for approval before formally issuing.

7.4. Carillion has confirmed that it will proceed with the competitive dialogue stage pending the receipt of the ITPD in order to maintain momentum.

APPENDICES

Appendix A: Qualitative analysis of PF2 vs P21+ (Deloitte)
Appendix B: Feedback from DH / HMT on trust's procurement option appraisal 10 Dec 2014
Appendix C: Review of public sector procurement options (Sweett)
Appendix D: 2 stage design and build / p21+ programme (Sweett)
Appendix E: Financial analysis of total PF2 costs vs P21+ (Trust)
Appendix F: Carillion Market Testing Strategy (Carillion)
Appendix G: Revised PF2 programme (Trust)
Appendix H: ITPD (Trust)

APPENDIX A

MIDLAND METROPOLITAN HOSPITAL (MMH) PROCUREMENT OPTIONS QUALITATIVE APPRAISAL

Question	PF2 Position	PSC Position	Impact of Single Bidder
VIABILITY For a project to be viable the investment objectives and desired outcomes need to be translatable into outputs that can form the basis of a contract and a sound payment mechanism; for example the quality and quantity of the outputs need to be ones that can be measured. Many services areas can be described in contractual terms, but some areas will be inherently 'non-contractible' as outputs.			
Project Level outputs			
Is the project delivery team satisfied that a long term contract can be constructed for this project? Can the contractual outputs be framed so that they can be objectively measured?	The contract will follow the requirements of DH Standard Form as amended by SOPC4 reflecting the new requirements set out by HM Treasury in PF2. Service outputs have been developed and can be objectively measured.	A contract will be developed for each element of the PSC procurement based on standard form e.g. Construction, lifecycle and fm. Service outputs and objectives can be objectively measured however this approach may result in 3 separate contracts/ contractors and could result in interface issues.	No impact from single bidder procurement – contract will be developed on the same basis as if in competition.
Is the requirement deliverable as a service and as a long term arrangement? Can the contract describe the requirements in clear, objective, output-based terms?	The Trust's requirements can be delivered as a service and must be as a long term arrangement. Again, the standard contract describes the construction and service requirements in clear, objective, output-based terms.	The Trust's requirements can be delivered as a service and must be as a long term arrangement. Again, a standard contract can be developed to describe the construction and service requirements in clear, objective, output-based terms however via this route it may result in separate contracts/ contractors for each element of the provision which could lead to interface and project management issues.	No impact from single bidder procurement – contract will be developed on the same basis as if in competition.
Can the quality of the service be objectively and independently assessed?	The Project Agreement sets out in clear terms the Trust's service requirements and incorporates measurable performance standards, objectively and independently. The requirements of the Contract can and will be appropriately assessed using both an independent tester and the contractual requirements of the payment mechanism. The Trust has experience of	A similar approach would be adopted to the PF2 route – standard contracts could be developed for each element of the project and KPIs/service standards clearly outlined. Again this approach may result in numerous separate contracts/ contractors and could result in interface issues. The Trust has experience of managing and understanding such contracts and the various	No impact from single bidder procurement – underlying contract and approach will be developed on the same basis as if in competition.

Question	PF2 Position	PSC Position	Impact of Single Bidder
	successfully delivering another PFI project and understands the contract and the obligations of the various parties involved and has the skills to manage the contract and relationship with the provider.	obligations and parties involved.	
Is there a good fit between needs and contractible outcomes?	The Trust has established its requirements and the service specifications which will measure the outcomes required. These requirements and service specifications have been tested with stakeholders in user consultation sessions and based upon previous PFI procurement and delivery experience. The development of the design and construction specification has involved a significant representation of the Trust staff.	Approach as per PF2 route – final contract structure may differ however the same requirements and outcomes are consistent irrespective of route adopted.	No impact from single bidder procurement – contractible outcomes and service requirements would remain unchanged (unless further VFM can be demonstrated) from the approach adopted if in competition.
Can the contract be drafted to avoid perverse incentives and to deliver quality services?	The contract is drafted and avoids perverse incentives whilst delivering quality services. The contract will follow the requirements of DH Standard Form enhances by the HM Treasury's PF2 changes. Using this standard document as a base and with the combined experience of the wider project team and its advisers, the Trust is confident that the contract has been drafted to avoid perverse incentives and deliver quality.	The contract can be drafted to avoid perverse incentives whilst delivering quality services. Standard form will be used where appropriate and also experience from previous PFI/capital projects will be acknowledged. Key difference is that via this route there may be a number of contracts and contractors rather than one – hence this may lead to additional issues managing the various stakeholders and any disputes around contract interfacing and overlap.	No impact from single bidder procurement – contract will be developed on the same basis as if in competition.
Does the project require significant levels of investment in new capital assets?	This project requires significant investment, approximately £300m capex.	This project requires significant investment, approximately £300m capex.	The project requirements have not changed significantly since OBC and no impact resulting from single bidder approach is expected. The scale of the project and affordability envelope remains unchanged.
Are there fundamental issues relating to staff transfer? Would any	The Trust is transferring hard FM staff (just over 40 people) but will retain some	Depending on the contracts procured under a PSC route a similar level of staff	No anticipated impact as a result of single bidder approach – the Trust would

Question	PF2 Position	PSC Position	Impact of Single Bidder
transfer be free from causing any loss of core skills that have strategic and/or long term importance to the procuring authority?	staff to ensure the position of a knowledgeable client remains. Given the contract is for 30 years, the movement of the staff will not cause strategic difficulties.	transfer would be expected.	still expect to transfer the appropriate level of Hard FM staff.
Is service certification likely to be straightforward in terms of agreeing measurable criteria and satisfying the interest of stakeholders?	Again, the contract contains measurable objectives which reflect the Trust's requirements. There are national standards which will be adhered to in the design and development of the Project (for example HMTs and HBNs). As part of minimising the carbon footprint the specification will also operate to the latest environmental standards. The Trust also adheres to high design standards as part of its design approach which will be included in the tender documentation issued to bidders.	Standards and objectives for the project and the Trust's requirements would be consistent with the PF2 approach – these are independent on the procurement route taken.	No anticipated impact as a result of single bidder approach – service certification standards and process will be unchanged.
Does the project have clear boundaries (especially with respect to areas of procuring authority control)? If there are interfaces with other projects are they clear and manageable?	The obligations of the provider are clear, design, construct, fund, insure and provide FM services (including lifecycle). The Trust intends to elect that the following services are also provided through the PFI: ground & gardens, snow clearance, external window cleaning, pest control. There will be an interface with the Trust in the provision of soft FM but this is a typical issue within the NHS PFI market with an acceptable position.	Obligations and services would be consistent with the PF2 approach however under the PSC route each element will likely be procured separately which will likely result in multiple contracts/contractors which may lead to greater interface issues. Any issues are likely to be manageable however this will require Trust input and resource.	No anticipated impact as a result of single bidder approach – project boundaries and interfaces will be unchanged.
Can the service be provided without the essential involvement of Trust personnel? To what extent does any involvement negate the risk transfer that is needed for VfM?	The service can be provided without the essential involvement of Trust personnel and therefore does not negate risk transfer. However, in the case of issues which could affect clinical services or the Trust's reputation, the Trust can step in if required and recharge the provider.	Under a PSC route the anticipated involvement of the Trust personnel is likely greater than under a PF2 approach in terms of project and stakeholder management. Also greater Trust input is required to monitor and manage risk – under this route a greater amount of risk sits with the Trust than under PF2 whereby a large proportion is transferred to the	No anticipated impact as a result of single bidder approach – this will have no impact on the service provision.

Question	PF2 Position	PSC Position	Impact of Single Bidder
		contractor over he project life.	
Is the contractor able or likely to have control/ownership of the intellectual property rights associated with the performance/ design/development of the assets for the new service?	It is unlikely that there will be intellectual property rights to the hard FM service provision.	As per PF2 approach	No anticipated impact as a result of single bidder approach – it is unlikely that there will be IPR relating to the hard FM services.
Will existing or planned elements within the scope of the project – or interfacing vitally with it – be complete before the start of the new service?	The only planned development is the clearance of the land and it will be completed before the start of the new service. The Trust now owns all the land and whilst there are still a few tenants in situ, the site will be clear prior to the procurement commencement.	As per PF2 approach	No impact anticipated.
Operational Flexibility			
Is there a practical balance between the degree of operational flexibility that is desired and long term contracting based on up-front capital investment?	The Trust recognises that the delivery of healthcare will change significantly in the future and will procure facilities that provide for future flexibility. The preferred bidders design may create additional or alternative flexibility. The exclusion from the PF2 of soft FM, I M & T and equipment in particular will secure the Trust's ability to respond to future service change. In addition, the Trust under PF2 is including the additional services mentioned earlier under a flexible arrangement. The cost of the services can be market tested and can be removed from the contract without any termination cost should the Trust wish to manage or provide those services direct.	A flexible approach to future services can be adopted via a PSC route – contracts are more easily separable into constituent parts and can be let over differing and shorter periods as appropriate. As per the PF2 approach market testing, benchmarking and flexible/additional services can be included within the contract and approach.	No anticipated impact as a result of single bidder approach – the same outputs and approach to flexibility will be factored into the contract.
What is the likelihood of large contract variations being necessary during the life of the contract?	The Trust is not anticipating any large variations: however the contract contains variation clauses. Over a 30 year concession it is conceivable that changes to the delivery of the FM services may be required	Similar to the PF2 approach – the contract developed for the PSC approach will factor in mechanisms to make changes post contract signing. A similar approach to large scale changes and small works	No anticipated impact as a result of single bidder approach – the same approach and mechanism to manage contract variations will be factored into the contract.

Question	PF2 Position	PSC Position	Impact of Single Bidder
	however it is anticipated that any such changes could be accommodated through the contract variation mechanisms and changes to the FM service would be relatively straightforward. Alterations to the facility are more complex and as such the Trust has incorporated a number of changes to the small works obligations to minimise the cost associated with small changes. Larger changes could be funded via a variation facility and can be costly to implement and therefore the flexibility of design becomes more important.	would likely be adopted. In addition contracts via a PSC route are likely to be let over a shorter time period hence the need for variations may be less in certain areas.	
Can the service be implemented without constraining the delivery of future operational objectives?	The hard FM service can be implemented without constraining the delivery of future operational objectives.	The hard FM service can be implemented without constraining the delivery of future operational objectives.	No anticipated impact as a result of single bidder approach. The delivery of the service post contract award will not be affected.
Is there confidence that operational flexibility is likely to be maintained over the lifetime of the contract, at an acceptable cost?	The Trust has retained substantial operational flexibility by the exclusion of soft FM services. The cost of the main hard FM service is fixed for the contract period. In addition, the market for construction, maintenance and management of Hospital facilities is mature and the Trust has experience of delivering similar infrastructure/services.	Under the PSC route operational flexibility is retained by the separation of the various contract Workstreams. The cost of these Workstreams will be fixed for the respective contract period. Again the market for construction, maintenance and management of Hospital facilities is mature and the Trust has experience of delivering similar infrastructure/services and is able to benchmark costs	No anticipated impact as a result of single bidder approach. The delivery of the service and flexibility post contract award will not be affected.
Equity, efficiency or accountability			
Does the scope of the service lend itself to providing the contractor with "end-to-end" control of the relevant functional processes? Does the service have clear boundaries?	The service is defined to cover the end-to-end requirements and has clear boundaries.	The service is defined to cover the end-to-end requirements and has clear boundaries. Key difference to PF2 is that under the PSC approach services are separable and more likely to be delivered by multiple contracting parties.	No anticipated impact as a result of single bidder approach. The requirements and boundaries around the services provided remain unchanged.
Are there regulatory or legal restrictions that require services to be provided directly?	There are no regulatory or legal restrictions requiring the services to be delivered directly.	There are no regulatory or legal restrictions requiring the services to be delivered directly.	No anticipated impact as a result of single bidder approach. The regulatory and legal environment remains

Question	PF2 Position	PSC Position	Impact of Single Bidder
			unchanged.
Is the private sector able to exploit economies of scale through the provision, operation or maintenance of other similar services to other customers (not necessarily utilising the same assets)?	Given the size of this scheme, it is unlikely that further economies could be made with other customers. Were this to be possible, the benefits would depend upon the private sector's other contracts in the area or through purchasing power.	Given the size of this scheme, it is unlikely that further economies could be made with other customers. Were this to be possible, the benefits would depend upon the private sector's other contracts in the area or through purchasing power.	No anticipated impact.
Does the private sector have greater experience/expertise than the procuring authority in the delivery of this service? Are the services non-core to the Trust?	The private sector focuses solely on construction and on the delivery of hard FM services. The services are non-core to the procuring authority. Key benefit of PF2 over PSC is the ability of one contractor to provide all aspects of the contract design, build, finance and operate and manage the risk transferred as a result – hence the risk sits with the party best placed to manage it.	The services are non-core to the procuring authority. The private sector is well versed and capable of delivering D&B and FM contracts of this nature. Under PSC a greater level of risk remains with the Trust.	No anticipated impact. The services are non-core to the Trust and the private sector's expertise
DESIRABILITY **PF2 can provide better risk management and produce incentives to develop innovative approaches to output delivery. Consistent high quality services can be incentivised through performance and payment mechanisms. However, risk transfer is priced into the contract. The purpose of these questions is to consider whether the benefits of PF2 are likely to outweigh any additional costs and disadvantages.**			
Risk Management			
Bearing in mind the relevant risks that need to be managed for the project, what is the ability of the private sector to price and manage these risks?	The project is straightforward and likely bidders will have priced and managed risks in the past. We would expect there is a wide range of contractors who will be familiar with the design and development of such facilities – as such, they will also have substantial experience of managing the risks associated with these projects.	Similarly to the PF2 approach the project is straightforward and likely bidders will have priced and managed risks in the past with respect to the construction and FM service delivery. We would expect there is a wide range of contractors who will be familiar with the design and development of such facilities – as such, they will also have substantial experience of managing the risks associated with these projects.	The private sector's ability to manage and price risk remains unchanged. However the Trust should be mindful that under single bidder approach greater scrutiny will be required re risk pricing applied. This could include requirements for open book accounting, benchmarking to other projects, comparison to the ISOS solution and levels of risk priced within this solution (which was submitted under competition).
Can the payment mechanism and contract terms incentivise good risk management?	The standard form payment mechanism and contract terms have been designed to incentivise good service delivery and management of risk.	A payment mechanism can be developed under the PSC approach however contractors are likely to be more risk averse if delivering individual strands of the provision as	No anticipated impact for the following reasons: 1) The underlying payment mechanism will remain unchanged

Question	PF2 Position	PSC Position	Impact of Single Bidder
	HMT has issued a payment mechanism and output specification to be used with PF2. The Trust will update the payment mechanism and output specifications to reflect lessons learnt on the existing PFI.	they have less control over the quality and management of the overall programme. As a result a greater level of risk pricing is likely to be factored in.	2) Any derogations from the standard form will need to be signed off by DH/IUK – hence the single bidder has very limited ability to adopt commercial positions that are not 'on market' 3) Similar projects have recently reached financial close and the Trust, contractor and its advisers are all aware of the key commercial positions adopted. As such precedence exists and again sign-off will be required for any major, non-project specific derogations
Innovation			
Is there scope for innovation in either the design of the solution or in the provision of the services?	The Trust has prepared an output based specification. The private sector has scope for innovation in either design of the solution or in the provision of the services.	The Trust has prepared an output based specification. The private sector has scope for innovation in either design of the solution or in the provision of the services. Key difference between the PF2 and PSC approach is that the construction and FM elements of the contract will likely be tendered separately – as such the scope for innovation may be reduced when compared to a single contractor able to take responsibility for the entire project delivery.	As a result of reduced competitive tension/completion it is possible that the level of innovation within the proposed design will be reduced – the argument being that the bidder does not have to stretch themselves to win an evaluation. However the impact is mitigated by the following factors: 1) The project has clearly defined quality requirements and service standards which the proposed design must meet or exceed. 2) The dialogue process will continue as if in normal competition to refine and improve the design. 3) ISOS solution provided whilst in competition and acts as a benchmark/yardstick for the remaining procurement

Question	PF2 Position	PSC Position	Impact of Single Bidder
			exercise.
Does some degree of flexibility remain in the nature of the technical solution/service and/or the scope of the project?	Flexibility remains on the technical solution but the scope of services has been described.	Flexibility remains on the technical solution but the scope of services has been described.	No anticipated impact. The level of flexibility within the solution will remain and the single bidder will continue to dialogue with the Trust (as if in normal competition) to refine and develop the optimum solution.
Could the private sector improve the level of utilisation of the assets underpinning the project (e.g. through selling, licensing, commercially developing for third party usage etc.)?	There is an opportunity for a commercial development with third party usage but not from core space. The Trust will decide on the management of the TPI opportunities (such as shops) as may conclude it is better value for money to manage the contract internally.		No anticipated impact.
Contract Duration and Residual Value			
How far into the future can service demand be reasonably predicted? What is the expected life of the assets? What are the disadvantages of a long contract length?	The Trust has undertaken a detailed market analysis and has worked closely with PCTs considering future activity considering demographics, epidemiology and models of care. The asset is expected to last 60 years. The disadvantage of a long contract length is the cost of change. The design requirements will encourage flexibility so that use and volume of activity can change without significant cost.		No anticipated impact from single bidder – contract length and expected life of assets unchanged.
Are there constraints on the status of the assets after the contract end?	The assets at the end of the contract revert to the Trust in Condition B. It is intended that the assets will continue to be used as a hospital after the end of the concession.	Under the PSC the Trust retained the risk and responsibility for the maintenance and condition of the asset over the 60yr expected life.	No anticipated impact. Treatment of assets at the end of the concession will remain unchanged.
Incentives and Monitoring			
Can the outcomes or outputs of the investment programme be described in contractual terms, which would be unambiguous and measurable?	The contract (in particular the output specification and payment mechanism) is clear about the outputs required and the standards to be met and these are unambiguous and measurable.	Via a PSC route the contract(s) and output specification would be developed to a similar level of detail to the PF2 position and the outputs and standards would be largely the same.	No anticipated impact. Outcomes or Outputs of the investment programme will remain unchanged.
Can the service be assessed independently against an agreed standard?	Each service specification contains performance standards which can be measured and independently assessed.	Via a PSC route the contract(s) and service specification would be developed to a similar level of detail to the PF2 position and the outputs and standards would be largely the same to allow for clarity around measurement.	No anticipated impact. Performance standards will remain unchanged.
Would incentives on service levels be enhanced through a PF2 payment mechanism?	The payment mechanism will provide an incentive to meet the service levels, through the potential to face significant reductions in	Via a PSC whilst it is possible to build in performance and deduction mechanisms into the contract the impact of	No anticipated impact. The basis of the payment mechanism will be based upon the standard and will remain unchanged.

Question	PF2 Position	PSC Position	Impact of Single Bidder
	payment due to under performance. The whole payment is at risk of poor performance.	doing so is greatly reduced when compared to PF2. The service contracts are much lower in value than the equivalent UP hence it is not possible to make such large deductions thus less incentive to the contractor.	
Is it possible to integrate the design, build and operation of the project?	Bidders will view the whole life costs of the facility as the design, build and maintain obligations rest with them. The integration of the design, build and operation of the Project is expected to be achievable based upon the Project team's experience.	Via PSC this is less likely as the Construction/D&B contract is likely to be procured separately from the service element – hence less opportunity to integrate. In addition there are potential interface issues and a greater proportion of risk will sit with the Trust.	No anticipated impact. The basis of the payment mechanism will be based upon the standard and will remain unchanged.
Are there significant ongoing operating costs and maintenance requirement? Are these likely to be sensitive to the type of construction?	There will be significant operating and maintenance costs. Where these are the responsibility of the private sector, they will view the whole life costs and considered in the approach to construction. Where the costs for service provision lie with the Trust, the specifications are clear about the Trust's requirements and bidders solutions will be evaluated using total operating costs, e.g. additional space will result in additional cleaning and energy costs incurred by the Trust and this will be reflected in the evaluation of the solutions.	There will be significant operating and maintenance costs. These may differ from the PF2 costs for a variety of reasons as this element of the contract is likely to be let separately from the D&B construction contract. As such provision of FM services may differ in terms of scope, flexibility and cost due to both Trust requirements and risk.	Operating costs are expected to be significant for the project and Single bidder approach does not impact this.
ACHIEVABILITY While PFI may allow a more efficient and effective combination of public and private sector skills, determining the rules that will govern the relationship between the two sectors does involve significant transaction costs. In particular, the procurement process can be complex and involve significant resources, including senior management time which may be required for project development and the ongoing monitoring of service delivery. Client capacity and capability, together with private sector deliverability, will have direct consequences for procurement times and the level and quality of market interest. PFI needs a robust competitive process to deliver fully its benefits and so the choice of procurement route should be informed by an assessment of the likely market appetite.			
Market Interest			
Is there evidence that the private sector is capable of delivering the required outcome?	General market experience, recent delivery of similar projects in the sector suggests the private sector is capable of delivering the required outcome.	The market available to deliver the project via a PSC is essentially the same as via a PF2 route in terms of the construction element and many of the same parties are also capable of	No anticipated impact - The private sector and more importantly the remaining bidder have the experience and capability to deliver the project.

Question	PF2 Position	PSC Position	Impact of Single Bidder
	The Trust had 3 responses to PQQ and was due to evaluate 2 bids at ISOS stage – bidders were large construction companies with the relevant experience and capability to deliver project of this type and scale. Bidder A (the remaining bidder) has recently successfully closed a project in this sector again demonstrating relevant experience.	delivering the FM services. Also P21+ route exists which is a framework of 6 potential contractors with the ability to deliver.	This capability was tested at PQQ and ISOS stage (during the competitive tender/evaluation) and the remaining bidder was able to demonstrate sufficient experience of delivering the required outcome.
Does a significant market with sufficient capacity for these services exist in the private sector?	See answer above	See answer above	See answer above
Is there likely to be sufficient market appetite for the project?	The Trust had 3 responses to PQQ and was due to evaluate 2 bids at ISOS stage – bidders were large construction companies with the relevant experience and capability to deliver project of this type and scale. Bidder A (the remaining bidder) has recently successfully closed a project in this sector again demonstrating relevant experience.	The market available to deliver the project via a PSC is essentially the same as via a PF2 route in terms of the construction element and many of the same parties are also capable of delivering the FM services. The P21+ route exists which is a framework of 6 potential contractors with the ability to deliver.	Yes - The Trust are currently in a single bidder position at ISOS having lost 2 bidders at earlier stages of the process. Bidder C decided to withdraw due to a decision to focus on other sectors following PQQ and Bidder B did not engage in dialogue at ISOS was not able to submit a compliant bid at that stage. In contrast Bidder A has been fully engaged throughout the process and submitted a compliant and affordable bid at ISOS stage.
Have similar projects been tendered to market? Has the procuring authority's commitment to a PF2 solution for this type of project been demonstrated?	There have been a number of similar projects- in fact all large hospital projects over the past 20 years have been procured through PFI in England and the Trust has demonstrated its commitment to PFI and has an existing PFI already which demonstrates the Trust understands the associated risks and issues. More recently Royal Liverpool University Hospital has reached financial close and other similar projects are in procurement. The Trust have been committed to the project for	Similar scope and scale D&B and FM service contracts have been tendered to the market across numerous sectors.	No anticipated impact – The Trusts' commitment to the project remains unchanged.

Question	PF2 Position	PSC Position	Impact of Single Bidder
	a number of years and MMH forms a key part of the Trust's strategy by centralising acute services onto a single site, enabling high quality care to be provided which is both clinically and financially sustainable.		
Does the nature of the project suggest it will be seen by the market as a profitable venture?	Historically bidders have viewed PFI and long term infrastructure projects as being profitable ventures provided bid costs are controlled and timetable adhered to. The PF2 guidance assists in this regard, giving clear guidance on timetable with agreed approval processes and timing. Initially the Trust had 3 responses to PQQ which is typical for this scale and scope of project however the Trust is now in a single bidder position at ISOS having lost 2 bidders at earlier stages of the process. The following reasons were given: Bidder C decided to withdraw due to a decision to focus on other sectors following PQQ and Bidder B did not engage in dialogue at ISOS was not able to submit a compliant bid at that stage due to concerns around the PSC/Costs/Affordability. In contrast Bidder A has been fully engaged throughout the process and submitted a compliant and affordable bid at ISOS stage.	Similarly – D&B and FM services contracts of this scope and scale have been tendered to the market across numerous sectors and are the core offering of many businesses operating in the sector.	The remaining Bidder views the project as profitable and the financial model received at ISOS reflects level of returns consistent with other projects of this scope and scale.
Other Issues			
Is the procurement feasible within the required timescale? Is there sufficient time for: resolution of key Authority issues; production/approval of	The timetable has been agreed within the Trust, with advisors and with DH. The process is well known by the public and private sector and a new timetable has been mandated by HM	An exercise is underway to assess the impact on timetable of undertaking a P21+ procurement – currently the delay to the current programme is anticipated to be 12	Yes – as a result of a single bidder process there may be opportunity to reduce the procurement timetable as long as VFM and affordability can be demonstrated. The Trust did explore the potential

Question	PF2 Position	PSC Position	Impact of Single Bidder
procurement documentation; staged down-selection and evaluation of bidders, negotiation, approvals and due diligence?	Treasury which includes approach and timing of approvals.	months.	to appoint PB based on ISOS submissions however solutions are not sufficiently developed to allow this.
Is the overall value of the project significant and proportionate to justify the transaction costs?	The project scale is significant enough to justify the transaction costs.	The project scale is significant enough to justify the transaction costs.	No impact anticipated – the internal Trust resources and costs remains largely unchanged as a result of a single bidder process.
Does the Authority have the skills and resources to define, deliver and support the service throughout the procurement and the subsequent delivery period?	The Trust has the skills and resources to manage the procurement (irrespective of the route taken) and monitor the service. The Trust has an existing PFI, D&B and FM service contracts from which they are able to draw upon experience gained. The Trust has specialist technical, legal and financial advisors in place with significant PFI experience.		No impact anticipated – the internal Trust resource and ability remains unchanged.

SANDWELL AND WEST BIRMINGHAM HOSPITALS NHS TRUST - MIDLAND METROPOLITAN SCHEME

FEEDBACK FROM DH / HMT ON TRUST'S PROCUREMENT OPTION APPRAISAL 10 DEC 2014

	DH/ TREASURY COMMENT	APPROACH	Reference to MMH procurement options appraisal paper
1.	**VALUE FOR MONEY**		
1.1	There are a number of quite sweeping assumptions that underpin the Appraisal, one of which seems to be that a Value for Money analysis has been carried out at OBC stage and that the outcome (which favoured PF2 against a publicly funded procurement) must remain unaltered until proven otherwise. We disagree: the benefits of a fully competitive process are an important element of the qualitative VFM analysis that favoured a PF2 procurement. To lose the benefit of competition at such an early stage is significant. At the very least, *a revised VFM assessment would need to be undertaken*. Our starting point is that the onus would be on those advocating the continued use of PF2 to *explain in some detail how something equivalent to competitive tension could be maintained in these circumstances*. The default assumption would be that a tried and tested procurement route, such as P21+, would be more likely to offer better VFM than something that has never been tried before. We are not suggesting that a case cannot be made for the PF2 single bidder solution, but it will need to be *significantly more sophisticated than relying on a*	➢ Qualitative Assessment of PF2 v public sector procurement has been reviewed and mitigations proposed. 1 factor out of 40 required mitigating. ➢ Quantitative PSC v PF2 VFM included in OBC) has been updated as required for the ABC. This shows a stronger VFM preference for PF2 than demonstrated in the OBC. ➢ We have described a Procure 21+ option based on procuring and continuing to develop the Carillion option. This includes a 12 months delay in opening. A quantitative VFM model has been	Appendix A Section A Paragraph 8.5 Section A Paragraph 8.5

DH/ TREASURY COMMENT		APPROACH	Reference to MMH procurement options appraisal paper
	VFM analysis which has clearly been overtaken by events. The revised VFM analysis would be informed by a revised and improved version of this paper and, among other things, *will need to explain the measures that will be taken to replicate, as far as possible, or adequately replace, the element of open competition*.	generated for this option and compared to PF2. PF2 is better VFM. ➢ For where MMH PF2 procurement is now we have proposed a set of mitigations which we believe put us in a similar position to a P21+ procurement	Section B
2.	**TIMETABLE – OPENING DATE FOR THE NEW HOSPITAL**		
2.1	The Appraisal asserts that a *publicly funded procurement will add 12 months to the overall timetable, but there is little or no evidence to support this*. It is assumed that 8 months will be lost to a revised approvals process, although since this has not been discussed at all with those responsible for the approval (eg DH and HMT) *the basis for making this assumption is unclear*. As explained in our VC yesterday, we are in discussion with colleagues at HM Treasury spending team to establish what process would need to be followed but we would expect it to be far more light touch and quicker than anticipated in the draft Appraisal paper.	We have considered our non PF2 procurement options and as described above selected one to describe in detail. This process was led by our cost advisors, Sweetts , and is described in the Procurement options paper together with a Gantt chart . We believe this route is likely to result in delay of at least one year.	Appendices C/D
2.2	It would be helpful to understand *what discussions have taken place with experts such as the ProCure 21+ team* to underpin the assumptions about the possible delays from switching to P21+ as an alternative procurement route. As noted above, this would provide assurance on VFM as it is a tried and tested means of procuring schemes. It has been suggested that P21+	We have had discussions with an expert practitioner on ProCure 21+ from Sweetts . This is described in the paper but would happy to confirm their views with any DH expert.	Appendix C

DH/ TREASURY COMMENT		APPROACH	Reference to MMH procurement options appraisal paper
	is unsuitable for large hospital schemes, and/or that the members of the P21+ framework are inexperienced in large construction projects, but these assertions seem questionable given that P21 is being used for the current Brighton scheme (capex value more than £400m) and the framework includes the likes of Balfour Beatty (one of the bidders for the Sandwell PF2), Interserve and Kier.		Appendix D
2.3	Without having carried out a detailed analysis, *we believe it would be reasonable to assume an initial delay of 2-3 months as a result of a switch to P21+*. It is a moot point as to whether this would not be compensated by a quicker procurement timetable subsequently. It would not, for example, be necessary to factor in time to discuss and negotiate the FM and lifecycle arrangements, nor would a debt or equity funding competition be required.	We have provided a Gantt chart which explains the timeline. You should note that our critical path to financial close is design then planning. Lifecycle/ FM commercial discussions and Funding Competitions are parallel processes which will not affect the lapsed time. We do however believe that under PF2 the period between draft final bids and appointment of preferred bidder could be subject to significant reduction and look forward to discussing this with you.	
2.4	The Appraisal *also ignores the possibility that the Trust will not achieve the timetable envisaged for the PF2 procurement and construction*. It has always been agreed on all sides that this is tight, and that was before the project encountered the current problem of a single bidder. It was *hard to agree with the statement in the Appraisal that the PF2 is "on track*". Surely it is obvious that it isn't, otherwise we would not be having the present discussions? A requirement to deliver a very tight 26	We agreed “on track” was a poor choice of words. We simply meant to indicate that there is a current plan which could be achievable which allows the hospital to open October 2018 For where MMH PF2 procurement is now we have proposed a set of mitigations which we believe put us in a similar position to a P21+	Section B

DH/ TREASURY COMMENT		APPROACH	Reference to MMH procurement options appraisal paper
	month construction programme (on acceptable commercial terms) is likely to be one matter that will quickly come into focus once the element of competition disappears. A single bidder is likely to feel more confident about challenging the timetable, or suggesting that the price needs to increase to reflect its risk in delivering it. Again, we retain an open mind on the solution, but *the case in favour of the PF2 option will need to be argued in much more detail, and more persuasively, than is currently the case*.	procurement	
3.	**TIMETABLE – IMMEDIATE ISSUES**		
3.1	As discussed yesterday, the *timing for issuing a revised ITPD and proceeding with dialogue is unrealistic* as it appears in this paper. Any revised ITPD will need to be reviewed and approved by DH and IUK before it is shared with the bidder. That, in turn, requires agreement on the way forward for the procurement. There is no chance of that happening by Christmas Eve, given that people are already beginning to disappear for the holiday period. We discussed the possibility of achieving a solution in January, with the task of looking at how any lost time could be recovered from later stages of the procurement (for example the approvals process).	The Trust has drafted a revised ITPD. The process volume is included as an appendix to the paper. Before it is issued, the revised ITPD needs to be agreed by Trust, DH, and IUK and accepted by Carillion. Hence a parallel process of drafting and discussion will be needed to ensure timely approval. We have shared some of the proposals with Carillion and they have so far been helpful. They are currently prepared to proceed at their own risk on design development whilst agreement is achieved.	Appendix H Appendix G
3.2	I would re-iterate the point made yesterday that, given the change in circumstances, there *ought to be scope for some*	We agree. There is scope to improve timescales/ accommodate longer construction	

DH/ TREASURY COMMENT		APPROACH	Reference to MMH procurement options appraisal paper
	innovative thinking on how to manage the remainder of the programme. With only one bidder in the frame, there should be plenty of scope for finding savings in the timetable. We are happy to work with you on this and to contribute ideas.	timescales associated with interim submission best VfM option. We have drafted revised timeline for procurement for discussion. It is included in the paper. Happy to work with you	
4.	**COMPETITION ON ELEMENTS OF THE PRICE**		
4.1	It is a good idea to identify *elements of the price that have been exposed to competition*, because this can be *evidence supporting value for money* being achieved. This is an area of the Appraisal that could and should be developed further.	Noted	
4.2	The *percentage of works packages subjected to market testing should be a minimum of 80%,* as happens in P21+. Adopting a 40% requirement, as in the current draft Appraisal, is a useful idea but is bound to suffer in comparison. Given that P21+ is a form of single bidder procurement, it will be di*fficult to justify adopting a more relaxed approach to competing works packages in the PF2 single bidder alternative*.	Our understanding is that although there is a commonly held belief that a minimum of 80% of the work packages are market tested in P21+ , this is not in the guidance and in practice does not usually happen to this extent. However Carillion have worked with us to produce a procurement strategy which shows how they will market test the components of capital costs and provide evidence of having done so before closure of dialogue. Note that in many cases this exceeds the evidence they would have provided to their board to demonstrate fixed price.	Appendix F Appendix C

DH/ TREASURY COMMENT		APPROACH	Reference to MMH procurement options appraisal paper
4.3	In principle (and particularly as a VFM comparison is likely to look at P21+ as the obvious way to procure a publicly funded alternative) the *Trust should look to include as many elements as possible of P21+ as a means of keeping costs under control as the design process develops*. That way, it can be argued that the Trust has followed established principles as a way of preserving value for money. *I would suggest tasking your advisors with identifying features of P21+ that could be incorporated into the Sandwell scheme, in addition to the competitive tendering of works packages*. The paper should also *include suggestions of how the element of competition will be extended to other aspects of the cost of the scheme, especially lifecycle and maintenance*. Of course, there is no P21+ precedent to draw on for those services, but I do not believe we can simply ignore the possibility of how competition could be achieved. The Trust should *also include (perhaps as a fallback) ideas for how benchmarking could be applied to these costs*. The sample would ideally need to be expanded beyond the Royal Liverpool scheme, useful though this is as a comparator, having involved the same bidder.	Please see comparison of PF2 / P21+ from Sweetts	
4.4	*Just because a debt funding competition will be carried out, it surely does not follow that 32% of the Unitary Payment has been competed*, as stated in the table on page 8. At least, it is not a particularly helpful comparator, given that the cost is inevitably lower in P21+, even though the funding source is not subject to competition. *The point that the funding costs are competed is a valid one, but the paper spoils the effect by taking it too far*.	The table is based on Deloitte's assessment of shadow tariff model and we think it does per se demonstrate competition on that element of the UP. We accept that it is not directly relevant to a comparison to P21+. Note however that the current (Papworth) interest rates are	

DH/ TREASURY COMMENT		APPROACH	Reference to MMH procurement options appraisal paper
		considerably lower than those used in our OBC.	
5.	**AFFORDABILITY**		
5.1	It seems to be *assumed that, because a conventionally funded procurement would mean that VAT on the construction costs cannot be recovered, that this spells the end for a P21+ or similar funded procurement in terms of affordability* (see page 9). *We all know it is a lot more complex than that, so the paper will need to include some proper analysis*.	We have generated LTFMs to compare the affordability. The results are in the paper.	Appendix E
5.2	As a general comment, I would *counsel against the paper adopting an unhelpfully dismissive and undeveloped approach to P21+ as a means of delivering the scheme, as the present draft does*. After all, the single tender solution for PF2 is bound to involve some compromises on the part of the bidder, as well as the Trust. We cannot ignore the possibility that it may be unwilling to proceed on terms that would be acceptable to the public sector side. The Trust might then have to look even more seriously at P21+ to deliver its scheme and sensible contingency planning for that outcome should be part of managing a successful outcome.	Noted.	
5.3	The OBC identified an affordability envelope. *There is an obvious risk that costs will creep up in a single bidder situation, despite everyone's best efforts*. We await the outcome of your evaluation of the single bid but it is important to be able to demonstrate, in order to support the case for continuing with a	You have now received and separately commented our evaluation paper. The Interim submission gives costs secured in competitive environment, and will be used for	

DH/ TREASURY COMMENT		APPROACH	Reference to MMH procurement options appraisal paper
	single bidder, that there is good headroom between the affordability limit and the cost of the current bid submission (which would be the last fully competitive proposal from the bidder). *A prudent margin would be 10% (ie the interim bid would need to be 10% lower cost than the affordability limit).*	cost control. The Trust will set financial hurdle at final bids to reflect competitive price which must be met. Current Papworth rates indicate a prudent margin between interim submission UP and trust affordability limit of the order you suggest	
6.	**EFFECT OF DELAY**		
6.1	Some comments are made throughout the Appraisal about the *negative impact of delay to the wider delivery of clinical services*, invariably as a consideration supporting the continuation of the PF2 scheme (the assumption being that this will inevitably result in an earlier completion of the facilities). Nobody wants delay, or believes that this is ever going to be a positive outcome, but we are in a situation where it becomes necessary to adopt the least bad option. The Trust has had to cope with sub-optimal facilities now for far longer than was originally expected when this project was first put forward. It has coped, although no doubt with some difficulty. *The Appraisal seems to assume that everything will fall off a cliff if October 2018 is not achieved*. That does not seem to have happened in the last few years, *so it needs to be explained why October 18 is such a hard deadline*. This will allow a considered assessment to be made of what is truly the "least worse option".	This issue has been explained in greater detail in the paper.	Part A Section 3

DH/ TREASURY COMMENT		APPROACH	Reference to MMH procurement options appraisal paper
7.	**NEXT STEPS**		
7.1	The *critical issues for us are these* · *Mirror the provisions of P21+ designed to protect the Trust,* especially (and specifically) the requirement for competitive tendering of 80% of works packages · Measures to achieve similar *protection for the lifecycle and maintenance costs* · Undertake a *revised VFM assessment* · *Affordability* – the headroom in the current pricing versus affordability envelope · *More realistic assessment of the comparison with P21+*, especially the likely timetable for each alternative procurement method		
7.2	Please can you *feed back to us as soon as possible on the outcome of the evaluation of the single bid and the call with the remaining bidder informing them of the single bid situation*, which I believe was scheduled for today. It would also be helpful if you could inform us of any other developments of significance with the bidder.		
7.3	The *Option Appraisal paper will need to be re-drafted*, but given the need to move quickly, the immediate priority must be to obtain *agreement on the "ground rules" for moving forward*, as		

DH/ TREASURY COMMENT		APPROACH	Reference to MMH procurement options appraisal paper
	described in this e mail, and the need to agree the revised ITPD.		
7.4	As suggested yesterday, it may be helpful to *discuss this directly with your advisors* (with the Trust's involvement, naturally, if preferred) if that helps to speed up the process. We also discussed yesterday the need for a *follow up meeting in mid January with the Trust and the TDA*.		

APPENDIX C
REVIEW OF PUBLIC SECTOR PROCUREMENT OPTIONS

Introduction
With the effective withdrawal of the Momentum consortium from the bidding process, the Trust is left with Carillion as the only bidder for the PFI redevelopment of Midland Metropolitan Hospital. The Trust and the its adviser team has made proposals to continue with the PFI process with a single bidder, with a number of additional control measures to achieve value for money in the absence of main bidder competition. The Department of Health has responded that it considers that the other options available to the Trust for the procurement and delivery of the project have not been fully considered.
The purpose of this report is to go back to 'first principles' to consider all available procurement options and to consider their merits against continuing with the PFI route.

1. Traditional Single Stage with Quantities

This method is now normally regarded as the procurement option of last resort for public procurement as it embodies the negative aspects of lowest price mentality with margins being made during the construction stage by squeezing the supply chain that may result in poor quality workmanship or claims for delay and disruption.
This procurement method entails substantially completing the design in great detail and then quantifying it before competitively tendering (typically to six contractors) in the marketplace. Because there is no overlap of design and construction, it would have the longest overall period of all of the options considered. It can produce good results in terms of quality and cost but, because of the adversarial nature of the contract and the liability taken by the Employer for the performance of the design team, this procurement route has a reputation for cost and time over-runs. It would involve re-commencing the European Union public procurement process which will add further time to the programme.
As the design is fully undertaken by the Trust's design team before engaging with the contractor, this procurement method does not transfer risk away from the Trust. It does not provide for the early input of 'buildability' advice from the contractor and it is not a collaborative process.
This procurement method is not suited to the Trust's programme for completing the project and does not deliver any risk transfer to the contractor. For these reasons, this route is not considered appropriate.

2. Traditional Single Stage Design and Build

This method involves setting the Employer's Requirements through a performance / functional content specification and competitively tendering (typically to three contractors) to the market who will undertake design work sufficient to arrive at a tender. The tender comprises a price and design for qualitative consideration. Final design work is undertaken after appointment of the contractor and can overlap with site preparation and early activities on site.
Whilst procurement may be quicker than is the case with Option 1 due to the reduced amount of up front deign, the European Union procurement process would still have to be recommenced.
Under this method the Trust is able to pass a greater amount of risk across to the contractor and is also able to benefit from buildability considerations being incorporated into the tender. However, the competitive nature of the process means that it is not collaborative and the contractor will seek to maximise margin through delivering savings post contract award.

This procurement method usually attracts very significant tendering costs at risk and, in the current market, it is unlikely that any contractors, of a sufficient size to be able to undertake this project, would be willing to tender on a single stage basis.
This procurement option is unlikely to be attractive to contractors in the current market and has limited benefits to the Trust. It is therefore not considered appropriate for this scheme.

3. Traditional Two-Stage Design and Build

This method of procurement has advantages in that it achieves a good degree of risk transfer, involves collaborative working and can harness buildability input from the main contractor and his supply chain. It also gives programme benefits by overlapping design and construction, although the OJEU process would again have to be recommenced.
The key issue with two-stage rather than single stage tendering is that the lower bid cost risk makes it far more attractive to bidders in the current market. This method of procurement typically involves tendering the outline Employer's Requirements by asking the market to price a stage one return which would typically comprise the following:

1. Preliminaries and establishment charges
2. Margin
3. Pre-construction design and buildability activities
4. Risk (depending on the scheme information available)
5. Contingency provision

The second stage involves designing and pricing all the subcontract works trade packages based on competitive quotations which, when aggregated with the stage one tender, will form the basis of a lump sum contract or a guaranteed maximum price (GMP).
This option is much more favoured by the market place as tendering costs and risks are minimised. It has the benefit of fitting closely with public procurement recommendations to involve the contractor in the design and planning of the project before commencing on site in order to minimise risks. It is a more collaborative approach to procurement than the competitive Options 1 and 2 described above.
There is no contractual requirement for the contractor to meet any particular affordability cap, although it is clearly in his interests to make his second stage figure acceptable in order for the project to proceed. The second stage process can be at the bidders risk but it is more common for a pre-contract services agreement to be entered into which would reimburse the contractor some, if not all, of his pre-contract costs, including design fees. This would obviously require capital funding prior to reaching the point at which a contract for the works to proceed to site could be entered into.
Under this option, Carillion could be one of the contractors invited to bid but there would need to be a decision made on which concept design, if any, should be used as the Trust's requirements.
It would be possible to start a two-stage D & B process with no concept design and make the design competition part of the first stage selection process. If other bidders were required to submit alternative designs in competition against Carillion and their design, it is unlikely that we would get any interest from other contractors in bidding (as the market would see the Carillion bid / scheme as being the Trust's preferred option).
The alternative would be for the Trust to buy Carillion's Interim Submission design and to require all bidders to take on the design team, currently working for Carillion, as their own team. The cost of buying the current design concept has not been identified.
This option would require a new business case to be prepared and approved and would require capital funding to be available. With a General Election in May, it is anticipated that this process,

combined with recommencing the OJEU procedure and the two stage tender process, would add more than a year to the start on site date (see programme at Appendix 1). It would therefore attract additional costs for inflation over the delay period as well as the cost of buying the concept design from Carillion and funding any pre-contract services agreement costs.

4. ProCure21^{+} (P21+)

This option utilises an established framework that has already been through a European Union procurement process and is promoted by the Department of Health (DoH) as its response to the public sector's challenge to engage with contractors on a more collaborative basis to avoid the negative aspects of traditional procurement. There are six contractors on this national framework: Balfour Beatty; Galliford Try; Integrated Health Projects; Interserve; Kier; and Willmott Dixon.
P21+ is essentially a two-stage design and build methodology, but to some extent the first stage has already largely been completed by the DoH and the methodology comes with a package of additional measures and mandatory protocols designed to reinforce risk management and programme and cost control.
The initial contractor selection process is designed is one of the quickest to get a contractor and his design team on board. As the framework complies with OJEU procedures, there is no requirement to undertake a project specific OJEU process. Within the P21+ procurement option there is the ability for the Trust to influence the contractor's design team make up so that it retains some measure of control over design quality and performance.
This procurement route carries many of the benefits of traditional two stage design and build but allows for an earlier contractor selection and more collaborative working. relationship before determining the guaranteed maximum price for construction works. The P21+ process requires both the contractor and the Trust to engage in an open discussion on project risks and work through a commercially bankable allocation of risk to carry forward to the construction stage.
The preferred Contractor, (known as the Principal Supply Chain Partner or PSCP) is selected through a standard process based on experience, proposed team, innovative proposals etc. but <u>not</u> price, as the framework rates for Overheads and Profit and hourly charge rates are already established within the framework. Within 4 – 6 weeks of selection, the PSCP reviews the Trust's budget / cost plan and has to commit to developing his scheme within the agreed Affordability Cap. The design is developed by the PSCP and his design team, and a Guaranteed Maximum Price contract sum is established through market testing and open-book tendering of works packages. The GMP can be established at any point in the process. There is no contractual stipulation as to what level of market testing is completed before the GMP is finalised but common aspiration is for 80% of the value to have been market tested in order to demonstrate value for money.
One of the key features of P21+ is that the Trust can benefit from any cost reductions which may arise through further market testing / package tendering below the agreed GMP sum. Any savings of up to 5% below the GMP are shared 50:50 between the Trust and the PSCP. Savings greater than 5% are taken fully by the Trust. It must be noted that costs are aggregated and therefore any 'gain-share' is assessed on the total cost rather than on individual packages.
The PSCP and his design team are paid for their work in developing the scheme and market testing through to agreement of the contract sum. Payment is based on time charge rates at the P21+ framework rates but, again, within a pre-determined cap established at the appointment of the PSCP for the pre-construction phase.
The key issues with this route in relation to MMH are as follows:-
At £300m, not all of the Framework contractor would be suitable for, or are likely to be willing to undertake, the scheme. Balfour Beatty, Interserve and IHP are likely to be suitable. Kier is a major

contractor but our experience is that they are only interested in projects up to £100 – 150m. No market soundings have yet been taken with the framework contractors.
Carillion is not one of the P21+ framework contractors. If the Trust wished to adopt and develop the Carillion Interim Submission design, it would have to buy the design from Carillion and require the P21+ bidders to all use Carillion's current design team.
Whilst the Overhead and Profit levels of the PSCP do not form part of the contractor selection, framework rates are understood to vary from approximately 5.8% to 7.5%. The Overhead and Profit level for Carillion in the Interim Submission is 6.8% and is therefore within the range of P21+ values.
This option would require a new business case to be prepared and approved and would require capital funding to be available. Whilst selection of the PSCP in itself can be relatively quickly achieved, with a General Election in May, it is anticipated that this process, would again add more than a year to the start on site date (see programme at Appendix 1). It would therefore attract additional costs for inflation over the delay period.

5. Private Finance Initiative

The business case for PFI has previously been made and approved.
Continuing with the current process maintains the momentum of the project and builds on the procurement process and design undertaken to date. With only one bidder, the competitive pressure on the overall price has been lost and therefore additional control mechanisms and value for money tests have been proposed as detailed below.
The Bid Deliverables at the Interim Submission have provided:-

- An elemental Cost Plan of the capex with the net construction cost and all 'margins' (Preliminaries, Overheads and Profit, Contingency / Risk, inflation etc) all itemised;
- A costed risk register with a demonstrable link to the Contingency / Risk figure in the Cost Plan;
- A Lifecycle model in elemental format linked to the Cost Plan;
- Preliminary Hard FM cost models.

Prior to moving forward with Carillion, it is proposed that following control mechanisms are out in place:

- A commitment from Carillion to work to the capex, lifecycle cost and Hard FM costs within their Interim Submission as Cost Limits for the next stage. (This would not be as formal as a GMP, as it would not be possible to agree a meaningful GMP at this stage);
- Agreement of the elemental Cost Plan for the capex as the framework within which the design development will be managed through the next stage;
- Agreement that the Cost Plan figures for Preliminaries, Overheads and Profit, Contingency / Risk, Design Fees and Inflation will be fixed as 'not to be exceeded' values or percentages. (The values or percentages could be reduced at the next stage but not increased);
- Introducing 'Cost Check' submissions during the CD4 period with a requirement for the bidder to report updated costs against the agreed elemental Cost Plan, with an explanation in each report of any variances from that Cost Plan;
- Agreement that the net construction cost will be market tested as far as practicable prior to the CD4 submission;
- Agreement that the bidder shall share his market testing / tendering information for the work packages comprising the net construction costs for the elemental values in the agreed Cost Plan;

- Agreement that the bidder shall provide information to demonstrate value for money of the MMH costs against those for the Royal Liverpool Hospital.

Carillion has made proposals for the market testing process, which would see 23% of the net construction cost of the project being subject to market testing by the April 2015 submission and 57% by the July 2015 submission. The balance would be benchmarked against other schemes (including P21+ projects) and the Royal Liverpool Hospital PFI.
This level of market testing is not uncommon in P21+ schemes at GMP.
The Trust has proposed that the Preferred Bidder date should be advanced to July in order to meet the overall target completion date and achieve an overall better VFM construction solution. We have advised that the shortening of the period to PB will make the process of demonstrating value for money more difficult as the market testing process can only reflect the level of design information available.
Shortening the period to Preferred Bidder allows the project to target a pre-Christmas 2015 financial close and hence to adopt a (less expensive) 33 month construction programme with no advanced works.
In the Trust' s view this outweighs the benefit of extra certainty in the area of competitive tension.

6. Summary / Comparison

The above analysis indicates that three procurement routes could be used by the Trust to take the MMH project forward – Traditional Two-Stage Design and Build, P21+ or PFI / PF2.
In principle, all three are forms of two-stage design and build contracting and all three involve market testing of the net construction cost of the works during the second stage process. The Traditional Two-Stage Design and Build option is considered not to be an appropriate option because:-

- it would take the longest of the three options to get to a start on site;
- it is likely to involve payment of design and procurement costs to achieve a contract sum, under a pre-contract services agreement;
- the market testing / GMP agreement process is essential the same as under PFI;
- there is no risk transfer of lifecycle and FM costs;
- there may be limited market interest from other contractors if Carillion is one of the bidders.

The remaining options are P21+ or PFI / PF2, which are compared under the following headings:-
<u>Programme</u>
Whilst P21+ does allow speedy appointment of the contractor (PSCP) the change to capital funding would require a new business case to be prepared and approved. With an election in May, the assessment of the programme for this is that the start on site would be delayed by at least a year.
Please refer to the programme at Appendix 1

<u>Costs / GMP / Market Testing</u>
The Interim Submission made by Carillion complies with the Affordability Limit of the Unitary Charge.
Following meetings on the Interim Submission, the capital costs are to be re-presented by Carillion but they do benchmark acceptably against the PSC Cost Plan. The Overhead & Profit percentage is within the range that would be applicable under P21+.
It is therefore considered that, on a like for like basis, the Cost Plan from a P21+ contractor would be similar to that which has been submitted by Carillion in their Interim Submission.

However, with the anticipated one year delay to the programme, the P21+ route is likely to incur additional construction inflation in the order of 4%.
PFI and P21+ both impose a requirement to meet the Trust's affordability cap. The GMP and market testing processes to demonstrate value for money would different between P21+ and PFI are different because of the point in the programme at which they are drawn.
Under PFI :-

- the GMP / contract sum is fixed relatively early and are therefore at a higher level, requiring greater reliance on benchmarking;
- any benefit of the full market testing based on more detailed and developed designs pass to the Contractor rather than the Trust;
- the contract sum is a fixed sum on which the contractor takes the risk of delivery;

Under P21+

- the GMP / contract sum is fixed later in the process with up to 80% of the net construction value being subject to market testing;
- through the gain-share arrangements, the Trust can benefit from the full market testing of sub-contract packages if the aggregate comes within the agreed GMP;
- the contract sum is a GMP which can also potentially generate gain-share savings back to the Trust should the total actual cost be less than the contract sum.

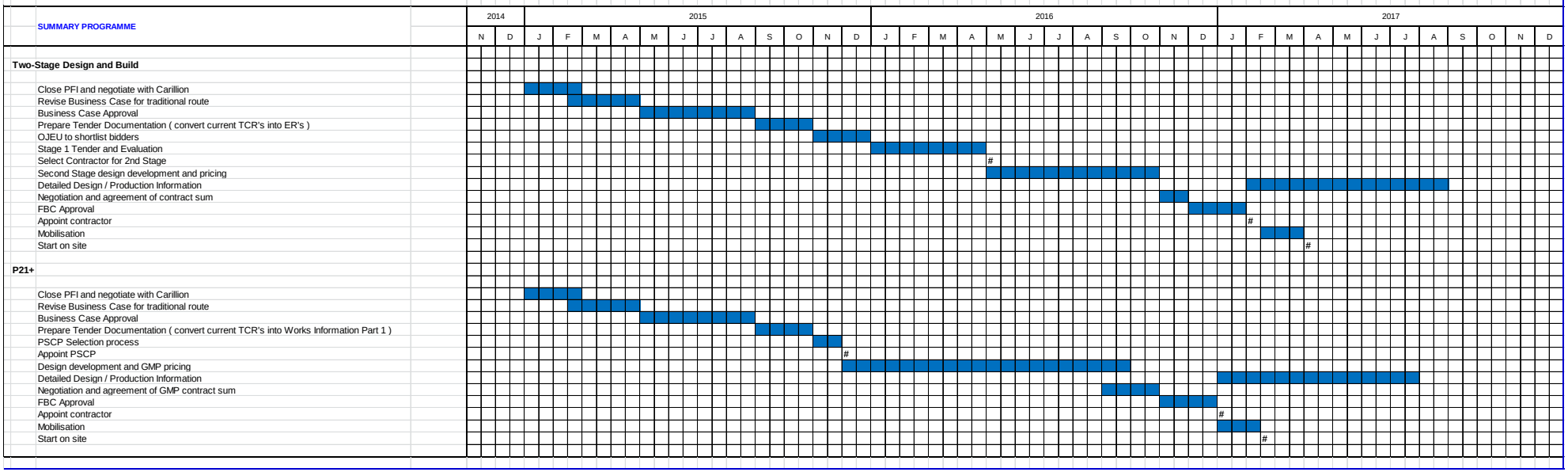
Pre-Construction Costs
As well as the requirement for capital funding to be available, P21+ also involves the funding of the PSCP's and the design teams costs prior to starting on site. This cost could potentially be abortive if the parties were ultimately unable to agree an acceptable contract sum. Under the PFI option, Carillion would still be required to fund, and carry the full risk of, all pre-construction costs and design fees.
If P21+ were to be selected and the Trust wished to adopt the current Carillion design, the Trust would have to 'buy' the current design concept and 'novate' the design team to the P21+ bidders.

Conclusion
Whilst P21+ offers a viable alternative, it remains our view that continuing with the PFI route is likely to provide the best overall value for money for the Trust given the current position on the project.

APPENDIX D
2 STAGE DESIGN AND BUILD / P21+ PROGRAMME

MIDLAND METROPOLITAN HOSPITAL

POTENTIAL PROGRAMME FOR OPTION 2 - 'TRADITIONAL' PROCUREMENT (2-Stage Design & build or P21+)



APPENDIX E

FINANCIAL ANALYSIS OF TOTAL PF2 COSTS VS P21+

Refreshed PF2 Affordability I&E Forecast

Statement of Comprehensive Income (PF2)

Statement of Comprehensive Income	Forecast 2014/15	Forecast 2015/16	Forecast 2016/17	Forecast 2017/18	Forecast 2018/19	Forecast 2019/20	Forecast 2020/21	Forecast 2021/22	Forecast 2022/23
Income									
NHS Clinical income	391.0	390.8	397.5	398.9	400.7	408.8	419.2	430.7	440.3
Non NHS Clinical income	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Other Operating income	41.1	41.3	39.9	39.9	48.0	46.0	44.4	42.7	41.1
Total Operating Income	**432.4**	**432.5**	**437.7**	**439.2**	**449.1**	**455.2**	**463.9**	**473.8**	**481.7**
Expenditure									
Pay	(283.0)	(274.5)	(274.2)	(269.9)	(264.7)	(267.8)	(274.6)	(281.4)	(286.1)
Non Pay	(124.7)	(131.6)	(132.8)	(136.4)	(141.3)	(138.1)	(141.2)	(145.5)	(147.7)
Total Operating Expenses	**(407.6)**	**(406.0)**	**(407.1)**	**(406.4)**	**(406.0)**	**(405.9)**	**(415.8)**	**(426.9)**	**(433.8)**
Operational Surplus	**24.8**	**26.5**	**30.7**	**32.9**	**43.1**	**49.3**	**48.1**	**46.9**	**48.0**
Profit / loss on asset disposal	-	-	-	-	-	-	-	-	-
Impairment losses	-	-	-	(66.3)	(45.9)	-	-	-	-
Depreciation	(14.5)	(14.8)	(15.4)	(15.7)	(13.7)	(15.6)	(16.4)	(16.7)	(16.1)
Total interest receivable / (payable)	0.1	0.1	0.1	0.2	0.2	0.3	0.3	0.3	0.4
Total interest payable on loans / leases	(2.2)	(2.1)	(2.2)	(2.1)	(11.3)	(16.0)	(15.8)	(15.5)	(15.4)
PDC Dividend	(5.0)	(6.5)	(7.8)	(7.6)	(6.0)	(5.2)	(5.3)	(5.5)	(5.4)
Non Operating Costs	**(21.6)**	**(23.4)**	**(25.3)**	**(91.5)**	**(76.7)**	**(36.5)**	**(37.2)**	**(37.4)**	**(36.5)**
Surplus / (deficit) before tax	**3.2**	**3.1**	**5.4**	**(58.7)**	**(33.6)**	**12.8**	**11.0**	**9.5**	**11.5**
Add back technical adjustments	-	-	-	66.3	45.9	-	-	-	-
Revised Surplus / (deficit) before tax	**3.2**	**3.1**	**5.4**	**7.6**	**12.4**	**12.8**	**11.0**	**9.5**	**11.5**
Net Margin %	**0.73%**	**0.71%**	**1.23%**	**1.74%**	**2.75%**	**2.81%**	**2.37%**	**2.01%**	**2.39%**
CSRR Liquidity Ratio Score	**3**	**2**	**4**	**4**	**4**	**4**	**4**	**4**	**4**
CSRR Capital Servicing Score	**3**	**3**	**4**	**4**	**1**	**3**	**3**	**3**	**3**
OVERALL Continuity of Service Risk Rating (CSRR)	**3**	**3**	**4**	**4**	**3**	**4**	**4**	**4**	**4**

P21+ Affordability - I&E Forecast

Statement of Comprehensive Income (P21+)

Statement of Comprehensive Income	Forecast 2014/15 £m	Forecast 2015/16 £m	Forecast 2016/17 £m	Forecast 2017/18 £m	Forecast 2018/19 £m	Forecast 2019/20 £m	Forecast 2020/21 £m	Forecast 2021/22 £m	Forecast 2022/23 £m
Income									
NHS Clinical income	391.0	390.8	397.5	398.9	400.7	408.8	419.2	430.7	440.3
Non NHS Clinical income	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Other Operating income	41.1	41.3	39.9	39.9	39.2	39.0	39.1	39.2	39.3
Total Operating Income	**432.4**	**432.5**	**437.7**	**439.2**	**440.3**	**448.2**	**458.7**	**470.3**	**480.0**
Expenditure									
Pay	(283.0)	(274.5)	(274.2)	(269.9)	(272.4)	(274.2)	(274.6)	(281.4)	(286.1)
Non Pay	(124.7)	(131.6)	(130.1)	(134.0)	(139.8)	(138.4)	(141.6)	(146.5)	(148.1)
Total Operating Expenses	**(407.6)**	**(406.0)**	**(404.3)**	**(403.9)**	**(412.2)**	**(412.5)**	**(416.2)**	**(427.8)**	**(434.2)**
Operational Surplus	**24.8**	**26.5**	**33.4**	**35.3**	**28.1**	**35.7**	**42.5**	**42.5**	**45.8**
Profit / loss on asset disposal	-	-	-	-	-	-	-	-	-
Impairment losses	-	-	-	(66.3)	-	(56.4)	-	-	-
Depreciation	(14.5)	(14.8)	(15.4)	(15.7)	(10.6)	(16.6)	(17.4)	(17.7)	(17.1)
Total interest receivable / (payable)	0.1	0.0	0.1	0.2	0.3	0.3	0.3	0.3	0.4
Total interest payable on loans / leases	(2.2)	(2.1)	(2.2)	(2.1)	(2.1)	(2.1)	(2.1)	(2.1)	(2.1)
PDC Dividend	(5.0)	(5.9)	(5.6)	(7.0)	(11.7)	(15.1)	(15.0)	(15.3)	(15.7)
Non Operating Costs	**(21.6)**	**(22.8)**	**(23.2)**	**(90.9)**	**(24.1)**	**(90.0)**	**(34.2)**	**(34.8)**	**(34.4)**
Surplus / (deficit) before tax	**3.2**	**3.6**	**10.3**	**(55.6)**	**4.0**	**(54.3)**	**8.3**	**7.7**	**11.4**
Add back technical adjustments				66.3		56.4			
Revised Surplus / (deficit) before tax	**3.2**	**3.6**	**10.3**	**10.7**	**4.0**	**2.2**	**8.3**	**7.7**	**11.4**
Net Margin %	**0.73%**	**0.84%**	**2.34%**	**2.44%**	**0.91%**	**0.48%**	**1.80%**	**1.63%**	**2.37%**
CSRR Liquidity Ratio Score	**3**	**2**	**1**	**2**	**4**	**4**	**4**	**4**	**4**
CSRR Capital Servicing Score	**3**	**4**	**4**	**4**	**3**	**3**	**3**	**3**	**4**
OVERALL Continuity of Service Risk Rating (CSRR)	**3**	**3**	**3**	**3**	**4**	**4**	**4**	**4**	**4**

Carillion
Midlands Metropolitan Hospital
Market testing definitions

	Detailed description of market testing methods		
1	**True market test lump sum**		
	package scope documents issued to supply chain in sufficient detail to attract lump sum quotations.		
	Subcontractors provide lump sum based on their own assessment of quantities and design solution where applicable.		
	Subcontractors to allow contingencies for risk and uncertainties		
	Carillion will consider and plug items excluded or qualified		
	Design documents include sufficient drawings and specifications to clearly brief requirements		
	Market testing evidence will be in the form of a lump sum quotaton comparison with Carillion adjustments to achieve compliance		
	number of suppliers will depend on package value and available supply chain		
2	**True market test rates only**		
	Package enquiry documents issued to supply chain to attract a schedule of rates		
	Sufficient design information issued to communicate an approximate scope / size of project for suppliers to assess capability and estimate prelims and overheads		
	Carillion will estimate approx quantities and apply SC rates + on-costs		
	Quantity estimate will vary depending on design information available		
	Where quantities cannot be clearly established from available designs, they will be estimated by referring to benchmark projects.		
	Additional allowance will be made for predicted quantity growth during future design detailing. Eg. Internal doors		
	Where specifications are lacking, prices will be invited based on previous projects		
	Market testing evidence will be in the form of a Carillion measured price build-up based on SC rates		
3	**SC target cost / budget estimate**		
	This method will be used where design will rest with the subcontractor, or where insufficient design is available and SC are invited to put forward an estimate based on their experience.		
	Carillion will work with suppliers to establish uncertainty and risk retained in the budget cost and make allowance to cover future design development.		
	Carillion will assess the robustness of budget estimates and will include the cost of a preferred supplier, based on Carillion's confidence in their solution being the right balance of price v quality		
	Market testing evidence will be in the form of a Carillion cost build up supported by SC budget estimates		
4	**quality / capability evaluation with all in rate for sample scope of works**		
	This method will be used for higher risk packages or packages where early contractor input is needed		
	Carillion would normally select contractors with limited price compeition in this situation on PFI bids		
	examples include insitu concrete frame, envelope facades etc		
	To help evidence price competition contractors would be invited to submit a budget estimate, based on a sample scope of works.		
	The total of the scope of works will not be used to value the works package, but used for an aspect of a MEAT evaluation of the contractor selected		
	Where this method is used in reference to NG Bailey selection, no sample pricing will be available, as their selection is part of our consortium. We could however compare their oncosts to others.		

	The package value will be built up in collaboration with the SC who will work towards establishing a GMP		
	Market testing evidence will be in the form of a sample priced scope of works priced by multiple SCs		
5	**use RLUH market testing of rates and adjust for inflation**		
	An alternative to sending out enquiries for suppliers to provide rates (as described in option 2)		
	Where design information is unavailable, an assumed solution will be taken from a more advanced design on RLUH		
	Market testing carried out on RLUH will prove current compeitiion in the rates		
	an adjustment will be made to re-base market tested rates to the base date for MMH		
	Market testing evidence will be in the form of a comparison schedule of rates supported by copies of suppliers quotes relating to RLUH		
	MEP rates from other P21 projects can be used in a similar way applied to estimated quantities; see notes below		
	Equipment pricing will be gathered from various recent hospital procurement exercise. Ie. Evidence of supplier prices to validate the allowances within our equipment schedule.		
6	**rely on benchmarking / estimator assessment**		
	RLUH was won in competition very recently and provides robust transparent data for pricing MMH. We believe that where elements are in line with RLUH costs for elements this demonstrates VfM , assuming market conditions have not diminished. We also believe that market conditions have improved since RLUH was tendered and therefore rates from RLUH are better VfM than would otherwise be achieved though simple market testing at present day.		
	Notes:		
	MEP scope will not be clear enough at bid stage to accurately measure quanitities. Quantities will be estimated by benchmarking against other projects. Market tested rates can then be applied.		
	We are currently proposing that much of the M&E pricing will be based on benchmarking, as design information will not be available for suppliers to provide prices. However, NG Bailey have a huge amount of design and price information relating to many P21 projects which we believe should be able to demonstrate VfM on MMH. Where the design information does not allow true market testing on MMH, using prices from P21 projects to generate a benchmark, should prove the pricing method is as good as a P21 project, which is being cited as the best alternative route to delivering MMH. We would welcome further discussion on this, as it should present an opportunity to replace any of the other proposed package methods that you may feel will not satisfy the VfM check.		
	In all types, the estimated number of suppliers indicate the number invited. Where suppliers fail to return or decline to tender, market testing will be limited to the number of bids received.		
	If no bids are obtained pricing methods will revert to relying on benchmarking or estimator assessed allowance.		
	Market testing will be carried out progressively during CD4 stage; design information available at 28th February will be used for issue to contractors, which will then be used to support the bid submission on 9 April		
	Further market testing will then continue until June to support the final bid confirmation of 1 July		

Carillion
Midlands Metropolitan Hospital
Market testing strategy to evidence VfM

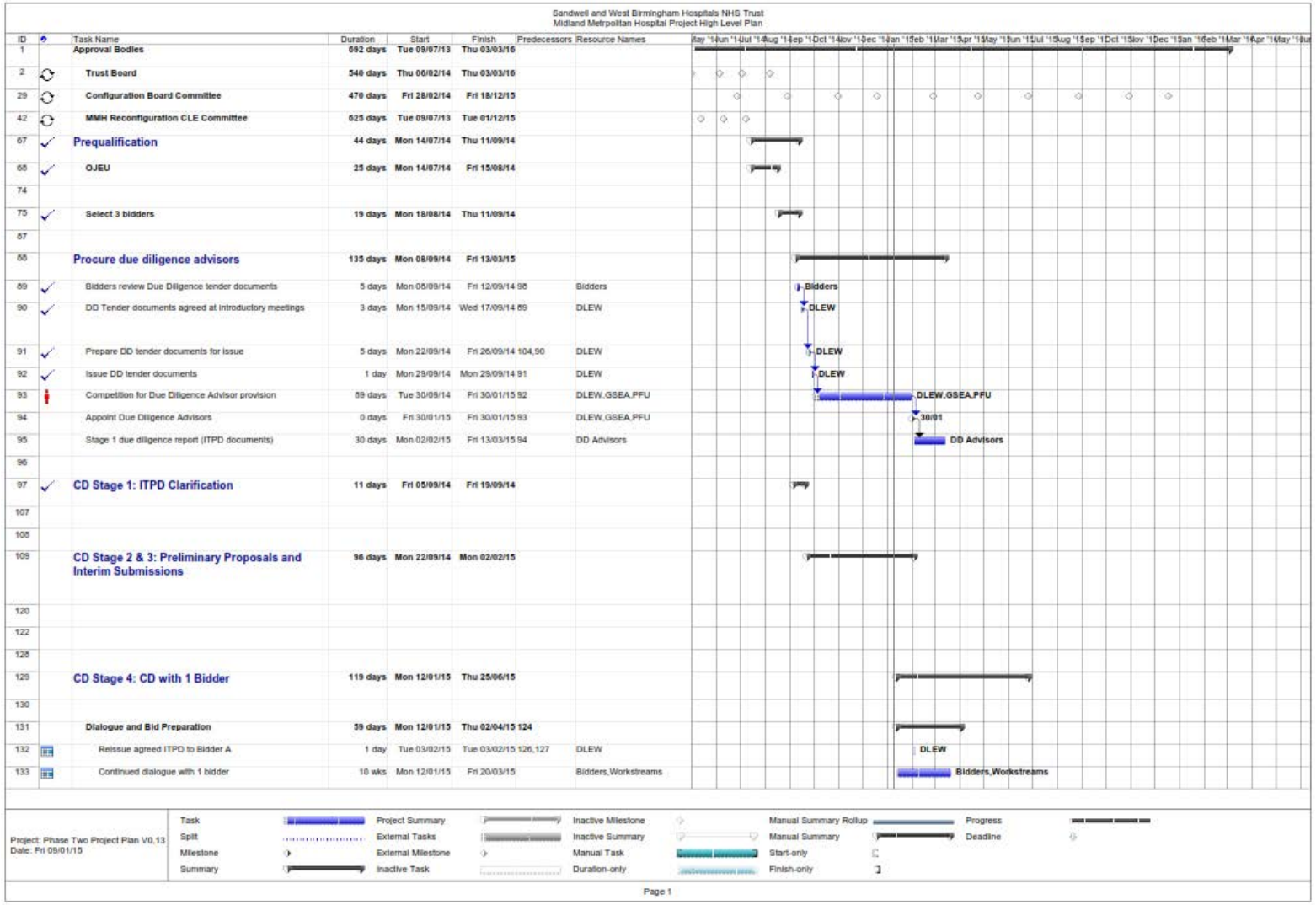
		Market testing strategy	April '15 bid submission		July '15 bid confirmation		
	1	True market test lump sum	7,818,869	4%	18,001,094	9%	
	2	True market test rates only	37,620,065	19%	94,954,256	48%	
	3	SC target cost / budget estimate	30,563,409	15%	5,000,526	3%	
	4	quality / capability evaluation with all in rate for sample scope	63,955,901	32%	32,875,680	16%	
	5	use RLUH market testing of rates and adjust for inflation	19,659,722	10%	10,475,623	5%	
		Market tested subtotal	**159,617,965**	**80%**	**161,307,178**	**81%**	
	6	rely on benchmarking / estimator assessment	39,941,110	20%	38,251,897	19%	
			-		-		
			199,559,075	**100%**	**199,559,075**	**100%**	
		all indicative costs only, used only to calculate MT %			-		

CPT	Sub	Description	Current Total	MT definition	No of suppliers	Current Total	MT definition	No of suppliers	Contractor design input?	Measure required?	Scope documents
			April '14 bid submission			July '14 bid confirmation					
		Packages	199,559,07			199,559,07					
1	2030	Enabling and Remediation Works	-			-					
1	2200	Bulk Excavation	-	2	2	-	2	2	N	Y	
1	2250	Retaining walls	-	2	2	-	2	2	Y	Y	
1	2300	Groundworks and substructure	8,415,538	2	2	8,415,538	2	2	N	Y	
1	2350	Piling	3,829,264	1	3	3,829,264	1	3	Y	Y	
1	2400	Insitu concrete structural frame	31,080,221	4	3	31,080,221	2	1	Y	Y	
1	2401	Precast concrete frame components	2,308,000	2	3	2,308,000	1	3	Y	Y	
1	2410	Insitu concrete composite floor slabs to wards	-	2	2	-	2	2	N	Y	
1	2800	Structural Steelwork frame to wards	215,000	2	3	215,000	1	3	Y	N	
1	2801	Structural Steelwork - SECONDARY IN STRUCTURES - bracing etc	-	6		-	6		Y	Y	
1	2805	Structural Steelwork - SECONDARY IN ENVELOPE	475,000	6		475,000	6		N	N	
1	2810	Structural Steelwork - SECONDARY IN FIT OUT	73,847	6		73,847	6		N	N	
1	2850	Atrium structure	3,275,550	3	2	3,275,550	1	2	Y	N	
1	2860	Atrium core structures	-	3	2	-	3	2	Y	N	
1	3000	Fire Protection to steeel frame	30,000	2	3	30,000	2	3	N	N	
1	3001	Stair structures - PCC flights	7,500	2	3	7,500	2	3	N	Y	
2A	3100	envelope cladding infills to car park perimeter	-	3	2	-	3	2	Y	Y	
2A	3200	External facades to podium floors	17,785,859	3	2	17,785,859	2	2	Y	Y	
2A	3210	External facades to ward floors	-	3	2	-	2	2	Y	Y	
2A	3201	Atrium envelope	4,383,675	3	2	4,383,675	1	2	Y	Y	
2A	3202	Entrance canopies - main entrance, ED and ambulance	-	1	2	-	1	2	Y	N	
2A	3204	Car park shutters and barriers	36,000	1	2	36,000	1	2	N	N	
2A	3206	Curtain Walling to car park entrance hall and front elevation	-	2	2	-	2	2	Y	Y	
2A	3215	Louvres	-	2	2	-	2	2	Y	Y	
2A	3250	Rendered facades	-	5	2	-	2	2	N	Y	
2A	3260	SFS	-	3	2	-	3	2	Y	Y	
2A	3400	scaffolding	280,000	3	1	280,000	3	1	Y	N	
2A	3500	Windows within masonry or rendered walls	30,000	2	2	30,000	2	2	N	Y	
2A	3510	External Doors (General)	164,150	2	2	164,150	2	2	N	Y	
2B	3600	Roof Finishes - lightweight sheet roof cladding	5,881,350	2	3	5,881,350	2	3	N	Y	
2B	3610	Roof membranes - hot melt inverted roof systems	-	2	3	-	2	3	N	Y	
2B	3620	Green Roofs	-	2	3	-	2	3	Y	Y	
2A	3700	Brickwork & Blockwork External walls	467,400	2	2	467,400	2	2	N	Y	
3A	3800	Drylining & Plastering	6,510,604	5	3	6,510,604	2	3	Y	Y	
3A	3820	Glazed Partitions	2,330,475	5	2	2,330,475	2	2	N	Y	
3A	3830	COLD ROOMS	31,763	5		31,763	3		Y	N	
3A	3840	smoke curtains	310,805	1	2	310,805	1	2	Y	N	
4B	3900	Builderswork (Firestopping & Sealing)	1,479,124	6		1,479,124	6		N	N	
2A	3910	Building mainenance provision - abseil rails bmu etc	100,000	3	1	100,000	3	1	Y	N	
3A	4000	Suspended Ceilings	2,885,810	2	3	2,885,810	2	3	N	Y	
3A	4200	Prefabricated Toilet Pods	2,520,000	2	2	2,520,000	2	2	Y	Y	
3A	4305	Screeding	229,903	2	2	229,903	2	2	N	Y	
3A	4310	Epoxy or terrazzo flooring	194,793	5		194,793	2	2	N	Y	
3A	4320	Car park painted floor finishes	-			-			N		
3A	4350	Vinyl Floors	3,513,584	2	3	3,513,584	2	3	N	Y	
3A	4352	Carpet and entrance matting	224,609	2	3	224,609	2	3	N	Y	
3A	4353	Acoustic wall finishes to atrium	232,498	2	2	232,498	2	2	N	Y	
3A	4375	Hard Wall Finishes	- 159,112	5		- 159,112	5		N	Y	
3A	4395	Hygienic and sheet wall finishes	116,464	5		116,464	2		N	Y	
3A	4400	Doors, Frames & Ironmongery - TIMBER	2,711,080	2	2	2,711,080	2	2	N	Y	
3A	4410	Doors, Frames & Ironmongery - STEEL	222,340	2	2	222,340	2	2	N	Y	
3A	4420	Doors, Frames & Ironmongery - GLASS	159,439	2	2	159,439	2	2	N	Y	
3A	4430	Doors, Frames & Ironmongery - Theatres	-	2	2	-	2	2	N	Y	

3A	4435	Doors, Frames & Ironmongery - shutters and gates	5,000	2	2	5,000	2	2	N	Y	
3A	4445	General Joinery	828,542	6		828,542	6		N	N	
3A	4450	Atrium fit out and finishes	1,038,775	3	1	1,038,775	2	2	N	Y	
3A	4510	General Metalwork ENVELOPE	-			-			N		
3A	4550	Handrails & Balustrades (INTERNAL)	1,008,871	2	2	1,008,871	2	2	Y	Y	
3A	4555	Handrails & Balustrades (ROOF)	75,000	2	2	75,000	2	2	Y	Y	
3A	4800	Painting & Decorating	1,225,351	2	2	1,225,351	2	2	N	Y	
3A	4960	Wall Protection	539,213	6		539,213	3		N	N	
3B	5100	Sculpture & Artwork + Specialist fit out & finishes	350,000	6		350,000	6		N	N	
3B	5200	Signage, general INT + EXT wayfinding and door labelling	711,112	6		711,112	6		N	N	
3B	5350	Catering & Kitchens	200,000	3	2	200,000	3	2	N	N	
3B	5900	Furniture (Fixed)	198,099	6		198,099	6		Y	N	
3B	5910	Equipment	10,634,735	5	2	10,634,735	5	2	N	Y	
3B	5950	specialist rooms - turnkey fit out	337,584	6		337,584	6		Y	N	
4A	6080	M+E generally	34,429,840	6		34,429,840	6		Y	N	
4A	6081	M+E to carpark	2,202,750	3	1	2,202,750	3	1	Y	N	
4A	6082	M+E to atrium	531,905	6		531,905	6		Y	N	
4A	6100	NGB self delivered costs	32,875,680	4		32,875,680	4		Y	N	
4B	7400	Lift Installation	3,642,800	1	3	3,642,800	1	3	Y	N	
4A	7900	ICT in equipment list	5,325	6		5,325	6		N	N	
1	8100	Hard Landscaping	75,000	2	2	75,000	2	2	N	Y	
1	8200	Soft Landscaping	1,296,800	3	2	1,296,800	3	2	N	N	
1	8300	External Drainage	800,000	6		800,000	2	2	N	N	
1	8400	Roads & Paving	1,598,600	2	2	1,598,600	2	2	N	Y	
1	8500	Fencing and gates	415,000	2	2	415,000	2	2	N	Y	
1	8510	Street Furniture	157,500	2	2	157,500	2	2	N	Y	
4A	8602	External water main distribution	2,391,542	2	1	2,391,542	2	1	Y	Y	
4A	8611	BWIC external services	450,000	2	1	450,000	2	1	N	Y	
1	8800	Canal works	350,000	6	1	350,000	3	1	Y	N	
1	9999	Adjustments / sundry allowance / VE	- 1,168,480	6		- 1,168,480	6		N	N	

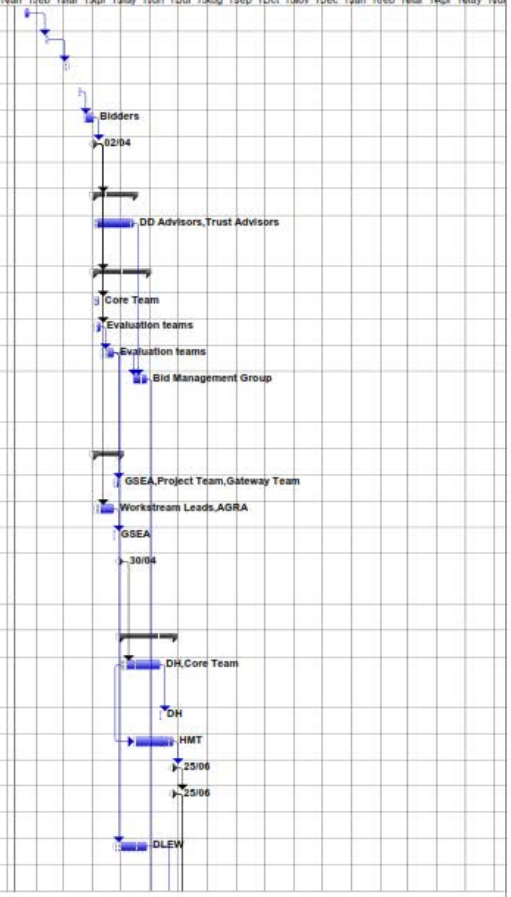
APPENDIX G

REVISED PF2 PROGRAMME



Sandwell and West Birmingham Hospitals NHS Trust
Midland Metropolitan Hospital Project High Level Plan

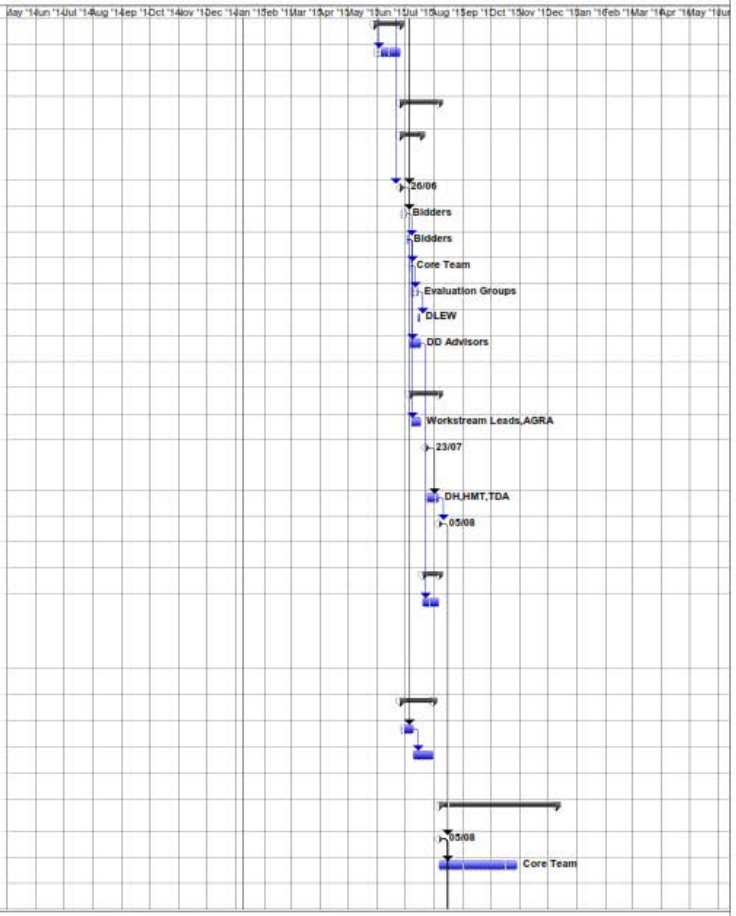
ID	Task Name	Duration	Start	Finish	Predecessors	Resource Names
134	Boot Camp 7/8/8a	4 days	Tue 20/01/15	Fri 23/01/15		
135	Boot Camp 9/10/10a COST CHECK	4 days	Tue 10/02/15	Fri 13/02/15	134	
136	Boot Camp 11/12/12a	4 days	Tue 03/03/15	Fri 06/03/15	135	
137	Boot Camp 13/13a	2 days	Wed 18/03/15	Thu 19/03/15		
138	Bidder prepares Draft Final Bids	9 days	Mon 23/03/15	Thu 02/04/15	137	Bidders
139	Bidder issues Draft Final Bids COST CHECK	0 days	Thu 02/04/15	Thu 02/04/15	138	Bidders
140						
141	**Due Diligence Review**	**30 days**	**Fri 03/04/15**	**Thu 14/05/15**	139	
142	Due diligence advisors EXTENDED REVIEW of concerns at draft bids	30 days	Fri 03/04/15	Thu 14/05/15		DD Advisors,Trust Advisors
143	**Evaluation of Draft Final Bids**	**40 days**	**Fri 03/04/15**	**Thu 28/05/15**	139	
144	Bid compliance testing	3 days	Fri 03/04/15	Tue 07/04/15	139	Core Team
145	Groups prepare for evaluation of Draft Final Bids	5 days	Fri 03/04/15	Thu 09/04/15	139	Evaluation teams
146	Evaluation of Draft Final Bids	10 days	Fri 10/04/15	Thu 23/04/15	145	Evaluation teams
147	Clarification / fine tuning / preparation for Closure of Dialogue	10 days	Fri 15/05/15	Thu 28/05/15	146,142	Bid Management Group
148						
149	**Preparing for Conclusion of Dialogue**	**19 days**	**Fri 03/04/15**	**Thu 30/04/15**		
150	Gateway 3a Review	3 days	Fri 24/04/15	Tue 28/04/15	146	GSEA,Project Team,Gatewa
151	Complete draft ABC for Conclusion of Dialogue	15 days	Fri 03/04/15	Thu 23/04/15	139	Workstream Leads,AGRA
152	CCG Presentations to seek endorsement for ABC	1 day	Fri 24/04/15	Fri 24/04/15	151	GSEA
153	Special Trust Board approval submission of Conclusion of Dialogue ABC	0 days	Thu 30/04/15	Thu 30/04/15		Trust Board
154						
155	**Approval of ABC for Conclusion of Dialogue**	**40 days**	**Fri 01/05/15**	**Thu 25/06/15**		
156	DH and TDA review draft ABC for Conclusion of Dialogue	30 days	Fri 01/05/15	Thu 11/06/15	153	DH,Core Team
157	DH formal referral to HMT for approval	1 day	Fri 12/06/15	Fri 12/06/15	156	DH
158	HMT approval process partially in parallel to DH	30 days	Fri 15/05/15	Thu 25/06/15	156SS+10 day	HMT
159	Approval for Closure of Dialogue	0 days	Thu 25/06/15	Thu 25/06/15	158	DH,SHA,PFU
160	Closure of Dialogue letter issued	0 days	Thu 25/06/15	Thu 25/06/15	159	Core Team
161						
162	**Complete ITFB**	**25 days**	**Fri 24/04/15**	**Thu 28/05/15**	146	**DLEW**
163						



Project: Phase Two Project Plan V0.13
Date: Fri 09/01/15

Task
Split
Milestone
Summary
Project Summary
External Tasks
External Milestone
Inactive Task
Inactive Milestone
Inactive Summary
Manual Task
Duration-only
Manual Summary Rollup
Manual Summary
Start-only
Finish-only
Progress
Deadline

ID	Task Name	Duration	Start	Finish	Predecessors	Resource Names
164	**Pre Closure of Dialogue Planning Activities**	**20 days**	**Fri 29/05/15**	**Thu 25/06/15**		
165	Bidder prepares planning application	4 wks	Fri 29/05/15	Thu 25/06/15	147	
166						
167	**CD Stage 5: Final Bids**	**29 days?**	**Fri 26/06/15**	**Wed 05/08/15**		
168	**Selection of Preferred Bidder Minded to Appoint**	**16 days**	**Fri 26/06/15**	**Fri 17/07/15**		
169	Issue Invitation To Submit Final Bids (ITFB)	0 days	Fri 26/06/15	Fri 26/06/15	162,160	Core Team
170	Final Bid documents prepared	1 wk	Fri 26/06/15	Thu 02/07/15	169	Bidders
171	Bidder Issues Final Bid documents COST CHECK	1 day	Fri 03/07/15	Fri 03/07/15	170	Bidders
172	Groups prepare for evaluation	1 day	Mon 06/07/15	Mon 06/07/15	171	Core Team
173	Evaluation Groups	6 days	Tue 07/07/15	Tue 14/07/15	172	Evaluation Groups
174	Complete evaluation report	2 days	Wed 15/07/15	Thu 16/07/15	173	DLEW
175	Due Diligence Stage 2 Report completed	10 days	Mon 06/07/15	Fri 17/07/15	171	DD Advisors
176						
177	**Appointment Business Case (ABC)**	**23 days?**	**Mon 06/07/15**	**Wed 05/08/15**		
178	Complete ABC	10 days	Mon 06/07/15	Fri 17/07/15	171	Workstream Leads,AGRA
179	Special Trust Board approves formal submission of ABC	0 days	Thu 23/07/15	Thu 23/07/15		Trust Board
180	ABC (and PB letter) approvals process	10 days	Thu 23/07/15	Wed 05/08/15	179	DH,HMT,TDA
181	ABC Approval	0 days	Wed 05/08/15	Wed 05/08/15	180	
182						
183	**Funding Competitions**	**13 days**	**Mon 20/07/15**	**Wed 05/08/15**		
184	Bidder A issues initial poject information to agreed shortlist of equity providers and long lists debt funders	13 days	Mon 20/07/15	Wed 05/08/15	175	
185						
186	**Pre PB Planning activities**	**25 days**	**Fri 26/06/15**	**Thu 30/07/15**		
187	Bidder prepares planning application	2 wks	Fri 26/06/15	Thu 09/07/15	160	
188	Bidder commences planning application	3 wks	Fri 10/07/15	Thu 30/07/15	187	
189						
190	**Preferred Bidder to Financial Close**	**90 days**	**Wed 05/08/15**	**Wed 09/12/15**		
191	Preferred Bidder appointed	0 days	Wed 05/08/15	Wed 05/08/15	181	DH,Core Team,HMT
192	Appointment of Independent tester	60 days	Thu 06/08/15	Wed 28/10/15	191	Core Team
193						

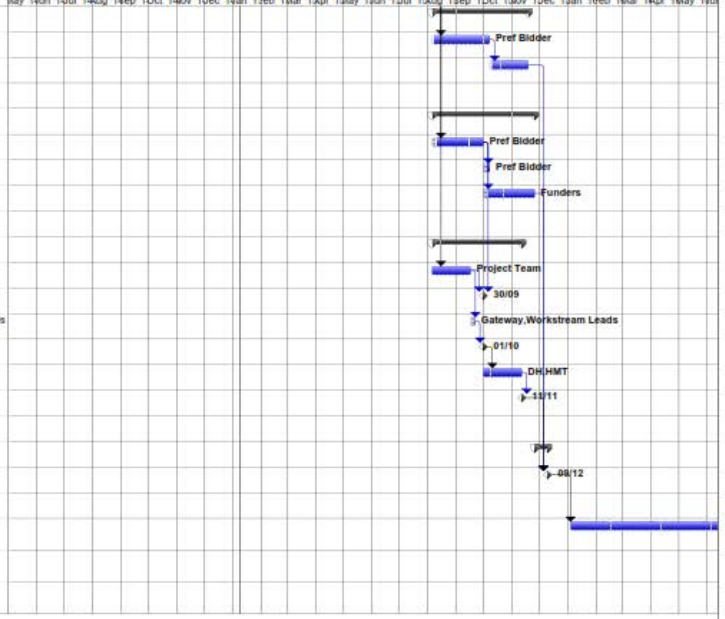


Project: Phase Two Project Plan V0.13
Date: Fri 09/01/15

Task | Split | Milestone | Summary | Project Summary | External Tasks | External Milestone | Inactive Task | Inactive Milestone | Inactive Summary | Manual Task | Duration-only | Manual Summary Rollup | Manual Summary | Start-only | Finish-only | Progress | Deadline

Sandwell and West Birmingham Hospitals NHS Trust
Midland Metropolitan Hospital Project High Level Plan

ID	Task Name	Duration	Start	Finish	Predecessors	Resource Names
194	**Design and Planning**	**75 days**	**Thu 06/08/15**	**Wed 18/11/15**		
195	Full planning consent Granted(3 wk PB)	9 wks	Thu 06/08/15	Wed 07/10/15	191	Pref Bidder
196	Judicial review period	6 wks	Thu 08/10/15	Wed 18/11/15	195	
197						
198	**Funding competitions**	**80 days**	**Thu 06/08/15**	**Wed 25/11/15**		
199	Funding competitions held and Trust approval	8 wks	Thu 06/08/15	Wed 30/09/15	191	Pref Bidder
200	Novate funding advisers to funder	1 wk	Thu 01/10/15	Wed 07/10/15	199	Pref Bidder
201	Funders prepare for financial close	8 wks	Thu 01/10/15	Wed 25/11/15	199	Funders
202						
203	**Confirmatory Business Case (CBC)**	**70 days**	**Thu 06/08/15**	**Wed 11/11/15**		
204	Preparation of Draft CBC	30 days	Thu 06/08/15	Wed 16/09/15	191	Project Team
205	Complete CBC	0 days	Wed 30/09/15	Wed 30/09/15	199,204	Workstream Leads,AGRA
206	Gateway Review 3B	3 days	Thu 17/09/15	Mon 21/09/15	204	Gateway,Workstream Leads
207	Trust Board approve CBC	0 days	Thu 01/10/15	Thu 01/10/15	206,23	Trust Board
208	CBC approval process	30 days	Thu 01/10/15	Wed 11/11/15	207	DH,HMT
209	CBC approval	0 days	Wed 11/11/15	Wed 11/11/15	208	
210						
211	**Financial Close**	**10 days**	**Thu 26/11/15**	**Wed 09/12/15**		
212	Financial close	2 wks	Thu 26/11/15	Wed 09/12/15	201,196,209	GSEA,Project Team,DH
213						
214	**Construction**	33 mons	Mon 04/01/16	Fri 13/07/18	212	
215	**Commissioning**	12 wks	Mon 16/07/18	Fri 05/10/18	214	
216	**Hospital Fully Open**	1 day	Mon 08/10/18	Mon 08/10/18	215	



Project: Phase Two Project Plan V0.13
Date: Fri 09/01/15

Task | Split | Milestone | Summary | Project Summary | External Tasks | External Milestone | Inactive Task | Inactive Milestone | Inactive Summary | Manual Task | Duration-only | Manual Summary Rollup | Manual Summary | Start-only | Finish-only | Progress | Deadline

APPENDIX H
DRAFT ITPD

Sandwell and West Birmingham Hospitals NHS Trust

Midland Metropolitan Hospital Project

Invitation to Participate in Competitive Dialogue
Volume Four

REISSUE FOR CD STAGE 4 - JANUARY 2015

TABLE OF CONTENTS

LIST OF TABLES

Disclaimer

This document has been prepared for use by Sandwell and West Birmingham Hospitals NHS Trust (SWBH) in connection with the titled project or named part thereof and should not be relied upon by any other person or used for any other project without an independent check being carried out as to its suitability and prior written authority of SWBH being obtained. Neither SWBH nor its advisors accept any responsibility or liability in connection with this document being used by any other person or being used for any other purpose other than the purpose for which it was commissioned nor do they accept any duty of care to any other person in connection therewith. Any person using or relying on this document for any other purpose agrees, and will by such use or reliance be taken to confirm his agreement, to hold SWBH and its advisors harmless from any and all losses and/or damages resulting there from.

1 Introduction

1.1.1 Volume One of the Invitation to Participate in Dialogue (ITPD) outlines the structure and content of the four volumes of the ITPD. This is the fourth volume which focuses on the procurement process. ITPD Volume 4 sets out:

- The approach to Dialogue
- The procurement timetable and process
- The approach to the Funding Competitions
- The Bid Deliverables and evaluation process
- The approach to Variant Bids
- Project management and administrative processes

1.1.2 A list of appendices is presented at Section 7.

2 Competitive Dialogue (CD) Strategy

2.1 Underpinning Regulations

2.1.1 The Trust is procuring the Midland Metropolitan Hospital (**MMH**) through the Government's new approach to the delivery of private finance into public infrastructure and services, Private Finance 2 (**PF2**) route.

2.1.2 The procurement is following the Competitive Dialogue procedure under Article 29 of directive 2004/18/EC (the Directive) and Regulation 18 of the Public Contracts Regulations 2006 (SI 2006/5) (as amended).

2.1.3 The purpose of this ITPD is to follow on from the initial ITPD issued in September 2014 and explore how the Trust will continue the Dialogue; and to explain the process which the Trust intends to follow, the requirements of Bidders (in terms of Bid Deliverables) and the Trust's approach to the evaluation of Bids.

2.1.4 The purpose of Dialogue is for the Trust to work with Bidders to develop solutions that will meet the Trust's requirements.

2.1.5 The rules of CD require that Final Bids shall contain all the elements required and necessary for the performance of the project. Bids may be clarified, specified and fine-tuned at the request of the Trust up to the point where a Preferred Bidder can be identified. However, such clarification, specification, fine tuning or additional information may not involve changes to basic features of the bid and / or distort competition or have a discriminatory effect. Once a Preferred Bidder has been identified, the Trust is permitted to "clarify aspects of that tender or confirm commitments contained" in it. Again, such clarification and confirmation may not have the effect of modifying substantial aspects of the tender and should not risk distorting the competition or causing discrimination. In each case therefore, the Trust will undertake this process with care to ensure that the requirements of the rules are observed.

2.1.6 This means that a high level of detail will be required such that price and commercial certainty has been achieved prior to Closure of Dialogue.

2.2 Summary of Trust Approach

2.2.1 The Dialogue process was expected to follow a 3:2:1 pattern.

2.2.2 The Trust issued an ITPD to three Bidders on 26th September 2014. One Bidder withdrew immediately. A second Bidder did not fully engage with the Trust during the CD3 Dialogue stage and did not submit a Bid in December 2014.

2.2.3 The Trust now intends, subject to agreement of certain criteria which this ITPD will make clear, to continue the Dialogue with one Bidder. There are some structural changes required to the programme and deliverables announced in the ITPD in September 2014 to support this. These changes necessary in order to provide an alternative mechanism to assure value for money (VFM) than the usual competitive pressure which would usually be present throughout CD4. The additional requirements are detailed in section 2.3.

2.2.4 The aim will be to make the Dialogue process as structured and transparent as possible to achieve the best outcome for the Trust without incurring unnecessary bid costs (see section 2.4). The process will be controlled by the Core Project Team (membership presented in ITPD Volume 1) to retain an overview of all issues and ensure consistency of approach.

2.2.5 The draft Project Agreement is based on Department of Health (DH) Standard Form (Version 3, as amended July 2004, February 2006, November 2006) ('DHSF') and has been tailored to reflect SOPC4 amendments, HM Treasury's Standardisation of PF2 Contracts which was issued in December 2012 and the specific elements of this project. It has been prepared with comprehensive bespoke drafting to reflect the Trust's commercial

position as outlined in ITPD Volume Three. The Trust has updated this to include amendments agreed with the Bidder during CD stage 3 and that update is included with this ITPD. There is an agreed list of outstanding issues to be resolved in CD stage 4. The Bidder is not permitted to raise new issues unless they arise as a result of design development.

2.2.6 Delivery of the Project under PF2 means that two separate Funding Competitions will be required. The first will be used to identify the Equity Provider and the second will be used to appoint the Senior Debt Provider. In each case these competitions are mandatory and will be held at the Preferred Bidder stage. The appointment of due diligence advisors was delayed from CD stage 3 due to the uncertainty with Bidder B. Early completion of the appointment in CD 4 will ensure that potential issues for Funders can be reviewed regularly through the procurement. Further details in relation to the Funding Competitions are included at section 4 of this document.

2.2.7 In September 2014 the Trust issued a comprehensive clinical and technical brief. As a result of Dialogue the Trust has updated that brief and an amended ITPD2 is now issued as part of this ITPD. The Trust gives the Design Vision values (summarised in ***Appendix 1*** of ITPD Volume 1) high priority and will focus on these principles at each stage.

2.2.8 The Bidder has already developed a design which responds to the Trusts brief. They will continue the development of their solution until their design is fully worked up and cost, commercial and risk certainty has been achieved. Prior to this, and to test readiness to Close Dialogue, the Bidder will be required to submit a Draft Final Bid. A full evaluation of the Draft Final Bid will be undertaken in accordance with the evaluation process set out in Section 5 to facilitate approval for Closure of Dialogue.

2.2.9 The Trust will only Close Dialogue if the Draft Final Bid includes all the elements required and necessary for the performance of the Project and it is satisfied that all material issues relating to the Bidder's solution, in particular those impacting on price and risk, have been scoped and agreed. The Bid needs to comply with the Trusts Cost and Quality hurdles and all Red rated RAG issues from Dialogue sessions need to have been resolved.

2.2.10 Approval from DH is required before the Trust is able to close Dialogue. DH will require the Trust to produce and get approval for an Appointment Business case from NHSTDA (or Monitor), DH and HMT before granting permission to close Dialogue. No changes to the basic features of the Bid involving changes to cost or which would otherwise potentially distort competition or result in discrimination will be permitted following Closure of Dialogue.

2.2.11 The Trust will evaluate the Bidder on the basis of their response to the Bid Deliverables as set out in this ITPD4. The Trust has provided guidance on what the Evaluation Teams will be considering in their evaluation.

2.2.12 The Trust reserves the right to vary the procurement procedure to support continued competition, avoid unnecessary Bid costs and adhere to subsequent technical or legal guidance.

2.2.13 Formal approvals will be required at key stages to enable progression of the Project. The Bidder will need to ensure that they comply with the requirements at each stage. Detail of the approval process at each stage is presented in Section 3.

2.3 Single Bidder Criteria

2.3.1 The Bidder agrees to work to the spv, capex, lifecycle cost and Hard FM costs within their Interim Submission as Cost Limits for the next stage.

2.3.2 The Bidder agrees that the Interim Submission Cost Plan figures for Preliminaries, Overheads and Profit, Contingency / Risk, Design Fees and Inflation will be fixed as 'not to be exceeded' values or percentages. (The values or percentages may be reduced at CD stage 4 but not increased).

2.3.3 The Bidder agrees to 'Cost Check' submissions at two-monthly intervals during the CD4 period with a requirement for the bidder to report updated costs against the agreed elemental Cost Plan, with an explanation in each report of any variances from that Cost Plan.

2.3.4 The Bidder agrees to provide evidence that at least 80% of the net construction cost will be market tested / tendered prior to final submission and that the most economically advantageous tender will transparently form the basis for the relevant section of the elemental cost plan submitted at Final Bids. The Trust has added a Bid Deliverable to require this information and it will be evaluated as a pass / fail criteria.

2.3.5 The Bidder shall provide information at each "Cost Check" point to demonstrate value for money of the MMH capital, lifecycle and hard FM costs against those for the Royal Liverpool Hospital. This information will be subject to detailed review and challenge by the Trust's cost advisors.

2.3.6 The Bidder agrees to resolve all Red issues from the interim submission and all subsequent boot camps during CD stage 4 to the Trusts satisfaction before the Draft Final Bid submission.

2.3.7 The Trust and Bidder agree to address Red issues arising from evaluation of interim submission at an early stage in CD4.

2.3.8 The Trust will expect the quality score for the solution achieved during evaluation at Draft Final and Final Bid stage to equal or exceed the quality score achieved at Interim Submission. If this is not the case at Draft Final Bid stage the Trust will provide detailed feedback and will expect the Bidder to improve the Bid to meet the target by Final Bids.

2.3.9 The Trust will generate a new metric of cost (npv of UP) per benefit point from the Bidders interim submission and will expect this to reduce at draft final bids.

2.3.10 The Bidder should note that the monetary and quality hurdle requirements detailed in section XXXX will be strictly applied.

2.3.11 The Trust has amended the programme included in this ITPD.

2.3.12 The Bidder is assumed to increase to three days access in each boot camp. By accepting this ITPD, the Bidder confirms that this is required / adequate to remain on course to achieve the programme included in section 3.1.

2.3.13 FM and lifecycle costs in the unitary payment will be benchmarked prior to Preferred Bidder. Lifecycle costs will be subject to early review by technical due diligence advisors. The Trust would propose requesting an amendment to clause 28 of the Project Agreement to require Project Company to competitively tender lifecycle and hard FM non pay costs above an agreed threshold.

2.4 Reimbursement of Bid Costs

2.4.1 The Trust intends that the Dialogue process will be conducted in a structured and efficient manner consistent with the achievement of the necessary commercial certainty so that the costs incurred by the Bidder and the Trust are proportionate to the project objectives.

2.4.2 The Trust's objective is therefore to ensure that the 'at risk' costs of bidding this scheme are no greater than they need to be for a scheme of this size and nature (in terms of service provision). The development of the scheme to date has been designed to achieve that objective and, in meeting its obligations under PF2, the Trust has structured the procurement phase so that it is no longer than 18 months from the issue of the contract notice to the appointment of a Preferred Bidder. The Indicative Timetable in Section 3.1 below demonstrates this.

2.4.3 The risk to the Bidder of not being appointed Preferred Bidder is clearly less under a single bidder scenario. However the Trust is concerned that the Final Bid needs to represent a value for money solution.

2.4.4 The Trust expects the Final Bid to include all the elements required and necessary for the performance of the Project and to be satisfied that all material issues relating to the Bidder's solution, in particular those impacting on price and risk, have been scoped and agreed. The Bid needs to comply with the Trusts Cost and Quality hurdles (including the maintenance or increase of the quality score described in 2.3.7). All Red rated RAG issues from Dialogue sessions need to have been resolved.

2.4.5 By agreeing to commence work in response to this ITPD, the Bidder understands that the resources necessary to complete the Bid to this level are at risk.

2.4.6 The Trust intends to keep the issue of bid costs under review as its procurement proceeds. If the commitments entered into in this ITPD are not fulfilled by the public sector the Trust would consider the payment of excess Bid Costs above the level described in section 2.3.3.

2.4.7 When forming a judgment, the Trust will be informed by PFU's recommendation.

2.4.8 The Trust would reserve the right to carry out due diligence to confirm the amount of any costs incurred by Bidders should it be minded to make any contribution towards bid costs.

2.4.9 The Trust has requested the Bidder confirms acceptance of the Trust's programme and approach as described in this ITPD prior to commencement of CD Stage 4.

3 Procurement Timetable and Process

3.1 Indicative Timetable

3.1.1 The key stages and milestones of the procurement are set out in Table 1 below. Whilst the Trust does not intend to depart from the indicative timetable it reserves the right to do so at any stage.

Table 1 Indicative Procurement Phase Timetable

Procurement Milestones	Date
OJEU	14th July 2014
Prequalification Stage	
Selection of 3 Bidders and one reserve	4th September 2014
ITPD Issued	5th September 2014
CD Stage 1: ITPD Clarification	
Induction activities	8th September to 19th September 2014
CD Stage2/ 3: Dialogue to Interim Submissions	
Interim submissions	12th December 2014
Appointment of Single Bidder	X January 2014
CD Stage 4: Dialogue with Single Bidder	
Submission of Draft Final Bid	2nd April 2015
Closure of Dialogue	25th June 2015
CD Stage 5: Final Bid	
Final Bid submitted	3rd July 2015
Appointment Preferred Bidder	5th August 2015
Preferred Bidder to Financial Close	
Financial Close	9th December 2015
Construction	
Handover	13th July 2018
Hospital Opening	8th October 2018

3.1.2 A detailed project plan is presented in ***Appendix 1***. The Trust reserves the right to vary the plan to support continued competition, avoid unnecessary Bid costs or adhere to subsequent technical or legal guidance.

3.2 Status Following CD3

3.2.1 The Trust invited the following three Bidders to participate in the Dialogue stage of the CD process: Balfour Beatty Investments, Carillion (The Hospital Company), Laing O'Rourke / Interserve (Momentum Healthcare). Balfour Beatty Investments declined to accept the ITPD. Laing O'Rourke / Interserve commenced Dialogue but did not engage fully and did not make an Interim Submission in December 2014. The Trust now intends, subject to certain amendments and criteria made clear in this ITPD, to continue the Dialogue with The Hospital Company.

3.3 Document Publication

3.3.1 The ITPD documents have been published the Trust website www.swbhbh.nhs.uk/about-us/new-hospital in line with transparency guidance.

3.4 CD Stage Structure

3.4.1 The Dialogue programme has been divided into five stages in accordance with the DH Design Development Protocol for PFI schemes. The project has completed stages 1 to 3. The aims and approach proposed for the remaining stages are outlined in the following sections.

3.4.2 A proposed timetable for Dialogue sessions, together with high level agendas, is presented at ***Appendix 2***.

3.4.3 The Trust believes that the proposed schedule of meetings provides adequate opportunities to develop the Bid to the level required. If the Bidder feels that they need to diverge from the timetable to address specific issues they should explain why. The Trust will try to accommodate such ad hoc requests. The Trust may not always be able to change timetables as requested. The Trust reserves the right to change the times and dates of meetings if necessary.

3.4.4 The Trust intends to use the core principles of lean procurement. Dialogue sessions will be conducted as "boot camps" where there will be multiple strands of Dialogue taking place in parallel, each with clear objectives to achieve before they are able to conclude. Each work stream will maintain RAG rated issues lists throughout the course of the dialogue.

3.4.5 A final boot camp will take place before submission of the Draft Final Bid to ensure all red issues raised during Dialogue are resolved.

3.4.6 Contemporaneous action/decision logs will be added to the issues lists during each Dialogue session and agreed by the participants before the close so that they can be circulated immediately.

3.4.7 Key members of the Core Project Team will be available for all Dialogue sessions (together with the necessary advisors / users).

3.4.8 Regular Bid Management Meetings for the Bid team to review progress with the Trust have been arranged as presented in the proposed timetable for Bidder meetings at ***Appendix 2***.

3.4.9 Bidders will record the outcome of their Bid Management Meeting in notes to be agreed by the Trust.

3.5 CD Stage 4: Dialogue with One Bidder

Aims

3.5.1 The aims of CD Stage 4 are for:

- The Bidder to complete development of their proposals
- The Bidder to resolve all project specific commercial requirements with the Trust
- Costings and the financial model to be completed ensuring that all price sensitive issues have been resolved
- The Trust to manage the process ensuring that meetings, requests for information (RFI), issues etc. are managed effectively and without incurring unnecessary costs and pressures on Bidders and Trust staff
- Development of all items required for the Bidder to prepare the Draft Final Bid

- The Trust to prepare an Appointments Business Case in draft and seek approval as a condition of Closure of Dialogue
- Submission and evaluation of Draft Final Bids
- Approval for Closure of Dialogue

Scheme Development with One Bidder

3.5.2 The Bidder will continue to develop their scheme to ensure that:

- Designs are finalised across all areas to a sufficient level that certainty can be achieved around price, risk and commercial position
- Designs are signed off by the Trust as clinically functional
- All final project specific issues are resolved and incorporated into the Project Agreement
- Agreement on the process for the Equity and Senior Debt Funding Competitions, funding packages and the financial model will be in place

3.5.3 The Bidder will have on-going access to meetings with the Core Project Team and users to facilitate preparation of the Draft Final Bid as specified in ***Appendix 3***.

3.5.4 The timetable presented at ***Appendix 2*** is provided for the Bidder so that they can plan resource requirements in advance. The timetable will be reviewed with Bidders at the beginning of CD Stage 4 to ensure that all required areas will be covered. All engagement, DQI, BREEAM and Design Review Panel events / workshops have been scheduled into the Timetable. The requirements for these events / workshops are presented in the Bid Deliverables at ***Appendix 3*** and will be planned by the Trust's workstream leads well in advance of the events.

3.5.5 The Trust will be working closely with the Private Finance Unit, Department of Health and other approval bodies during this period to prepare for Closure of Dialogue and the approvals process.

3.5.6 Bid Management Meetings for the Bidder to review progress with the Trust will continue during this period to ensure that all issues can be resolved prior to Closure of Dialogue.

3.5.7 The Trust initiated the appointment of the due diligence advisors in consultation with Bidders during CD stage 3.The appointment will be completed during this stage. Once the Preferred Bidder is formally appointed, these technical, legal and insurance advisors will be novated to the Preferred Bidder to assist in the Funding Competition. Following appointment of the Funders, they will be novated to the Funders. During the Dialogue process they will act in an administrative capacity only and as trustee for the duty of care to the ultimate funder. The approach to the Due Diligence Reports and the Funding Competition is detailed in Section 4.

3.5.8 A Stage One Due Diligence Report based on the ITPD documentation will be commissioned following their appointment.

3.5.9 All Requests for Information (RFI) will be submitted through the formal systems specified in section 6.2

Preparing for Submission of Draft Final Bids

3.5.10 Time for the Bidder to prepare their Draft Final Bid has been scheduled into the programme to ensure that they are able to complete to the standard required for Closure of Dialogue.

3.5.11 The Trust will not allow new issues to be raised after the submission of the Draft Final Bid, or issues to be re-opened which have previously been discussed and closed. It is therefore essential that bids are complete in every respect and that all commercial issues have been discussed and agreed with the Trust prior to issue of the Draft Final Bid.

3.5.12 All of the Bid Deliverables specified in ***Appendix 3*** for this stage must be presented clearly, using the formats and pro forma layouts specified.

Submission of Draft Final Bids

3.5.13 The Draft Final Bid must be submitted in accordance with the requirements of section 6.4.

3.5.14 The Trust reserves the right to request further information / design in order to fully evaluate the Draft Final Bid.

3.5.15 A full Reference Bid must be submitted as stated in section 5.8. Any Variant Bid will be issued as outlined in section 5.8.

3.5.16 At the Draft Final Bid stage the due diligence advisors will be required to carry out a detailed review of the draft bids.

Evaluation of Draft Final Bid and Preparing for Conclusion of Dialogue

3.5.17 The Trust will undertake compliance tests on the Draft Final Bid (as outlined in Section 5) to ensure that it meets the standards specified and is complete.

3.5.18 The Draft Final Bid will then be evaluated, in accordance with the evaluation process set out in Section 5 to ensure that the solutions proposed by Bidders meet Trust requirements and are robust enough to secure Department of Health and HM Treasury approval for Closure of Dialogue.

3.5.19 The Trust will provide feedback on areas requiring further work prior to closure of the Dialogue and in order to enable the Bidder to prepare their Final Bid. The Bidder will respond by updating and developing their bid further ensuring that all issues identified are addressed. This is important given that no issues can be raised or price sensitive changes made following Closure of Dialogue.

3.5.20 This stage will continue to programme until the Trust is satisfied that the solution will meet Trust requirements in relation to proposals for the Project and pricing.

Closure of Dialogue

3.5.21 The Trust is required to prepare and obtain approval for a draft Appointments Business Case before Dialogue can be closed. The case will need to be approved by the NHSTDA (or Monitor), DH and HMT before the Trust can be permitted to Close Dialogue.

3.5.22 The Trust will write this case in parallel with Dialogue.

3.5.23 It will formally submit the case after the Draft Final Bid has been received, however it will keep all approval bodies informed of progress during Dialogue to endeavour to minimise the time taken to gain approval.

3.5.24 A Closure of Dialogue Report will be developed to provide clear evidence that the Trust is satisfied with the Bid and is ready to close dialogue and invite submission of the Final Bid.

3.5.25 The Dialogue process will not be concluded until the Private Finance Unit approves Closure of Dialogue.

3.5.26 Following approval the Trust will formally declare in writing that the Dialogue process is concluded.

3.6 CD Stage 5: Final Bids

Aims

3.6.1 The aims of CD Stage 5 are for:

- The Bidder to submit a Final Bid
- The Trust to evaluate the Final Bid
- The Due Diligence Advisors to review the changes from Draft Final Bids and comment on any effect on their report
- The Trust to update the Appointment Business Case (ABC)
- The Trust to coordinate approvals leading to approval of the Preferred Bidder

Invitation to Submit Final Bids

3.6.2 The Trust will issue an Invitation to Submit Final Bids (ITFB) to the Bidder at Conclusion of Dialogue. This document will include addenda to the ITPD, which will capture changes to the brief that have been raised and addressed during the Dialogue process.

3.6.3 The ITFB will specify:

- Confirmation of changes to requirements set out in the ITPD which have arisen from the Dialogue process
- Reference to previous amendments or addenda which recorded these changes throughout the process
- The detailed content required for the Final Bid
- The deadline for submission of the Final Bid
- Any specific terms agreed with the Bidder during the CD process

3.6.4 The Bidder must submit a Final Bid based on the solution identified and agreed prior to the Closure of Dialogue.

3.6.5 The Trust will have discussed and resolved all commercial and price sensitive issues before Closure of Dialogue. The Project Agreement will therefore be agreed in respect of this position with only minimal non price sensitive issues left to be addressed at Final Bid. Any new issues raised or previously withdrawn points re-raised at Final Bid stage will render the Bid non-compliant.

3.6.6 Only items that have changed since the Draft Final Bid will be submitted by the Bidder when submitting their Final Bid. A schedule of items submitted as part of the Draft Final Bid and that remain unchanged must also be submitted for completeness.

Evaluation and Selection of Bidder the Trust is Minded to Appoint

3.6.7 The Core Project Team will first check bid compliance as described in section 5.3.

3.6.8 Evaluation of items that have changed since the Draft Final Bid will then be undertaken as described in section 5.4 and Core Project Team will produce an Evaluation Report.

3.6.9 The Core Project Team will also consider whether there is any potential for changes to items submitted at Final Bid to impact on the Draft Final Bid previously issued. The Bidder is reminded that at this stage the Trust is only permitted to "clarify, specify and fine tune" Bidder Submissions.

3.6.10 The Evaluation Report will confirm (or otherwise) that the Bidder should be appointed as Preferred Bidder by application of the evaluation criteria identified in section 5.5. The report will be considered by the Trust Board to confirm the provisional appointment subject to approval of the ABC.

3.6.11 The Trust will inform the Bidder of the outcome of its Final Bid evaluation.

3.6.12 A review of the due diligence report will be commissioned after the Trust after receipt of the Final Bid. This report will review any risks that have arisen since the full review conducted at Draft Final Bid stage. It also informs the Funding Competition.

Planning Permission

3.6.13 The Trust will expect the Bidder to commence the full planning application at risk at this stage.

Funding Competition

3.6.14 The Trust will expect the Bidder to

- send letters to the agreed long-list of equity funding candidates with initial scheme information
- liaise with sponsor's lawyers re carrying out DD (on behalf of equity provider).
- liaise with shadow funder's lawyers re carrying out DD (on behalf of debt funders).

Gateway Review

3.6.15 A Gate 3a will be planned towards the end of this stage to investigate progress towards the investment decision at Appointment Business Case (ABC).

3.6.16 A Gate 3b will be planned before submission of the Confirmatory Business Case (CBC) to assess readiness for Financial Close and in preparation for the construction phase of the project.

ABC Approval

3.6.17 The final ABC will need to be approved by the Department of Health before appointment of the Preferred Bidder.

3.6.18 The Preferred Bidder letter will be approved by the Department of Health for issue with the approval. This letter will refer to the ABC as documentation of the conditions of appointment.

Due Diligence Advisors

3.6.19 The due diligence advisors will be novated to the Preferred Bidder following approval of the ABC to enable preparation for the Funding Competition.

3.6.20 Due Diligence Reports to be prepared by the sponsors lawyers on behalf of equity during the "minded to appoint "period.

3.7 Preferred Bidder to Financial Close

3.7.1 Following the appointment of the Preferred Bidder the Trust may 'clarify' aspects of the Preferred Bidder's bid or confirm commitments, provided that there are no material changes to any aspect of the Final Tender; in particular that there are no changes that impact on price, commercial position and risk and provided that this does not have the potential to distort the competition or risk causing discrimination.

3.7.2 The Preferred Bidder should therefore recognise that the scope to make any changes to its bid subsequent to both submission of its Final Bid and Preferred Bidder appointment will be extremely limited.

3.7.3 The Trust expects that the remaining non price sensitive 1:50 plans and other design data will be completed during this period.

Planning

3.7.4 The planning process will continue to be taken forward with Sandwell Metropolitan Borough Council at this stage. Consultation with planners will have taken place during CD Stage 4 and the Full Planning application will be submitted as soon as the minded to appoint Preferred Bidder is known.

3.7.5 The Preferred Bidder will take responsibility for amendments with cost implications arising from changes due to planning requirements which are identified at this stage.

3.7.6 Full Planning Approval and expiry of the judicial review period will be completed prior to Financial Close.

Funding Competitions

3.7.7 The Preferred Bidder will run an Equity Funding Competition and a Senior Debt Funding Competition as outlined in Section 4 below. The Trust will confirm the selection of the winning Funder(s).

3.7.8 Due diligence advisor appointments will then be novated to the selected senior debt funder(s).

3.7.9 The Funder(s) will then prepare for financial close completing the work required to implement funding arrangements within agreed time and price thresholds.

Confirmatory Business Case

3.7.10 The Trust will work with the Private Finance Unit and Department of Health to ensure management of any potential problems impacting on the position achieved by the ABC.

3.7.11 A Confirmatory Business Case (CBC) will be agreed before Financial Close to confirm to the Department of Health and the Treasury that the parameters of the ABC have not been breached.

3.7.12 Formal submission of the CBC will be made after:

- Expiry of the judicial review period following planning approval
- Completion of the Funding competitions

Standstill Period: Alcatel

3.7.13 The standstill period is unnecessary in a single bidder procurement.

4 Approach to Funding Competitions

4.1.1 The Trust expects that the legal and insurance advisors to the providers of equity within the consortium will provide due diligence to potential third party equity funders and HMT / IUK. An amendment will be made to the contract with the due diligence technical advisor to senior debt so that the equity providers may rely on their advice.

4.1.2 Due diligence for senior debt providers is expected to be provided by independent third parties.

4.1.3 Historically, funders have commissioned due diligence for senior debt funders following the appointment of the Preferred Bidder. This has often resulted in the re-opening of commercial terms, something that is inconsistent with both the legal requirements of CD and the ABC process. In order to provide potential participants in a senior debt Funding Competition with an appropriate level of understanding of the Project and to limit any re-opening of commercial points, the Trust has adopted a strategy which requires the participation of shortlisted Bidders in the appointment of due diligence advisors.

4.1.4 This competition was commenced in CD stage 3 but due to the uncertainty with Bidder B was delayed. It will be completed in CD stage 4.

4.1.5 This section outlines the approach to the Funding Competitions and the due diligence process that will take place at key stages before submission of the ABC. It will be a condition of the Funding Competitions that Funders agree to be bound by the Project Agreement approved in the ABC.

4.1.6 An expected timeline can be found at Appendix 9.

Senior Debt Funding Competition

4.1.7 The following approach will apply:

- Bidder agreement to the funding protocol. Roles of participants and engagement in the appointment of due diligence advisors will form part of the Introductory Dialogue Session at CD Stage 1. The funding protocol is presented at Appendix 5.
- Due diligence advisors (legal, technical and insurance) will be appointed by the Trust (acting in an administrative capacity only and as trustee of the due diligence advisor duty of care to the ultimate funder) in consultation with the Bidders during the first months of the CD process. Bidders involvement will include:
  - Contribution to list of firms and specific individuals within these firms invited to tender for due diligence services
  - Agreement to the scope of services and terms of appointment
  - Participation in the evaluation of tender responses, interviews and contract award.
- Payment to the due diligence advisors will be made by Project Co following Financial Close
- A First Stage Due Diligence report based upon the ITPD documentation will be commissioned as soon as possible.
- At the Draft Final Bid stage, a Stage Two due diligence report will be commissioned
- The Stage Two due diligence report will be reviewed for any changes from Draft Final Bids after Final Bids are received. The final report will inform the Funding Competition.
- The due diligence advisor appointments will be novated to the Preferred Bidder after the Preferred Bidder has been appointed at ABC approval

- The Preferred Bidder will run a Funding Competition for the senior debt element of the Project. This will be undertaken on an open book basis, and overseen by the Trust and the PFU.
- The Preferred Bidder will select and recommend the winning funder(s) with the most economically advantageous tender. The Trust will confirm the selection of the winning funder(s).
- The due diligence advisor appointments will be novated to the selected funder(s) and they will continue their work up to Financial Close.

Equity Funding Competition (EFC)

4.1.8 The following approach will apply:-

- **Pre-qualification commitment:** As part of pre-qualification, Bidders were asked to confirm that should they be appointed as Preferred Bidder they are willing to run and underwrite an Equity Funding Competition. This confirmation included a commitment that the PB will follow the guidance published by HM Treasury on PF2 equity;
- **Underwriting:** The competition will be for a long term investor(s) to hold a significant minority stake in the equity of Project Co (alongside the Infrastructure UK Equity Unit "IUK EU"). The Preferred Bidder will be expected to meet the full risk capital requirement of Project Co in the event that IUK chooses not to invest and/or the Equity Funding Competition does not achieve the best VfM outcome. Bidders should expect that up to 25% of the risk capital in Project Co will be available for the Equity Funding Competition (with up to 20% being available to IUK EU).
- **At the initial stage of bidding:** Bidders will be invited to propose a list of candidates they are minded to approach to take part in the Equity Funding Competition. Bidders are not expected to engage with potential candidates in any depth at that stage. Through the Equity Funding Competition, the Government is looking to encourage direct investment by long-term infrastructure investors and the Preferred Bidder should thoroughly investigate such candidates.
- **During dialogue:** A discussion on the merits of potential candidates will take place as part of the dialogue process. Candidates will be reviewed on quantitative and qualitative measures. The Equity Funding Competition is mandatory but it is not part of the scoring of bids. Consequently, there is no relative additional benefit for a bid from the identity or the nature of the possible offer.
- **The selection process:** A one stage process will be run by the Preferred Bidder without a prior and separate pre-qualification stage. The selection of the winning candidate will be a decision for the Preferred Bidder based upon the outcome of its evaluation of the candidates. The Trust and IUK will work with the Preferred Bidder to ensure the length and cost of the process is commensurate with a VfM outcome. IUK EU believes that prospective third party investors will be willing to accept the Equity Due Diligence Arrangements as the basis for their investment appraisal but a separate information memorandum will be a requirement of running an Equity Funding Competition
- The Equity Funding Competition process will be analogous to the Senior Debt Funding Competition described above. The selection of the winning candidate for the Equity Funding Competition will be based upon the outcome of a well documented and thorough bid evaluation process. The Trust and IUK EU will require open-book sharing of the results of the review process, the evaluation criteria and selection of 3rd party equity bids as part of the Government's transparency policy.
- The Equity Funding Competition will be conducted in a manner reasonably to be expected by prospective equity investors having regard to the quantum of the investment and the risks assumed by equity investors. The Preferred Bidder will determine the Equity Funding Competition procedures which must be appropriate to assess the quantitative and qualitative merits of the candidates and compile their review in a readily accessible format for comparative analysis. These will be discussed with the Trust and IUK EU before the Equity Funding Competition is launched.

- **Bidders Advisers**: At financial close, advisers to the Project Co and the model auditor will be required to give letters of reliance to the equity investors (including any third party equity investors introduced following an equity funding competition).

Public Sector Equity

4.1.9 The following approach will apply:-

- The public sector (through the Infrastructure UK Equity Unit ("IUK EU")) will have the right but not an obligation to invest 20% of the equity required for the scheme through a combination of sub-debt and equity (in the same proportion to other equity providers). The decision by the IUK EU on whether or not to invest equity in the scheme will be based on its analysis of the information provided in accordance with the paragraphs on Bid Submissions elsewhere in this document and the requirements below. Bidders should note that the IUK EU will expect any public sector equity to be invested on a like for like basis alongside all other equity in the scheme. Bidders should assume when defining how the equity and the subordinated debt requirement of Project Co will be met that the IUK EU chooses not to invest equity, and state whether their response would differ, other than in quantum, if the decision was different.

- **Equity Bid Information:** Bidders are required to provide the information set out in the table at Appendix 8 ("PF2 Equity Bid Information") to enable the IUK EU to undertake due diligence on a proposed equity investment prior to appointment of the Preferred Bidder. The PF2 Equity Bid Information is to be provided by Bidders and no work by external advisers should be needed.
- **Equity Documents for Review:** Bidders should review the equity documentation (Shareholders Agreement, Articles, Loan Note Instrument) included at Appendix 8 (PF2 Equity Bid Information) and will be expected to provide comments on these during stage 3 of the dialogue (most likely at Bootcamp 6). A table will be provided by the Trust within which bidders' comments should be set out. Bidders should also review the Heads of Terms for the Construction Contract and FM Contract which are included at Appendix 8 as part of the pubic equity documentation. It will be a requirement of any investment of public equity that the matters referenced in these documents have been adequately included. Bidders will also be expected to provide comments on these documents during stage 3 of the dialogue.
- Following appointment of the Preferred Bidder, and preparation and agreement of detailed project documentation, the IUK Equity Unit will require:
    - memorandum ("Due Diligence Memorandum") from the legal advisers to Project Co which confirms the accuracy of the bid information used by the IUK Equity Unit for its preliminary due diligence (or advises where this has changed) and addresses specific points in further detail in response to a questionnaire issued by the IUK Equity Unit at that time regarding risk allocation between Project Co and its supply chain and insurers.
    - A copy of the reports prepared by the technical adviser and the insurance adviser respectively to the participants of the debt funding competition in respect of the scheme.
    - A copy of all agreements (in their most current form).
    - The right to ask Project Co's advisers to clarify points arising from the Due Diligence Memorandum and the above reports.
    - The right to participate directly in the negotiation of all documentation the shareholders are required to sign noting that the IUK Equity Unit would work in conjunction with other prospective equity investors using the same advisers.
    - The financial model and certain sensitivity scenarios to the base case required by the IUK Equity Unit.
    - Assistance as reasonably requested by the IUK Equity Unit to assist in its evaluation of the proposed investment.

- At financial close, advisers to Project Co and the model auditor to give letters of reliance to the equity investors (including any third party equity investors introduced following any equity funding competition) in a form reasonably required by the IUK Equity Unit.

5 Evaluation Process

5.1 Introduction

5.1.1 This section sets out the process for evaluation of the Bidder's proposal at the following stages:

- Draft Final Bid
- Final Bid

5.2 Bid Deliverables

5.2.1 The Bid Deliverables to be submitted for each stage of the Dialogue process are set out in ***Appendix 3***. This document shows the basis of evaluation at CD evaluation stages 4 and 5. It presents requirements at each stage. The formats required and pro forma references are specified in the document.

5.2.2 The Bid Deliverables specified will be evaluated as part of the formal process at Stages 4 – 5.

5.3 Compliance Testing

5.3.1 Compliance tests will be applied to assess the Draft Final Bid and Final Bid to ensure that:

- All specified deliverables are included
- Those deliverables specified as compliance are fulfilled e.g. a bid which demonstrates compliance with the set price targets.
- All deliverables are in the required formats and the prescribed proformas have been used
- Sufficient information at the required standard has been provided to enable a full evaluation
- Compliance with instructions regarding Reference and Variant Bids has been followed (see Section 5.8)

5.4 Evaluation Approach

5.4.1 The Draft Final Bid and Final Bid will be evaluated using the methodology outlined below.

5.4.2 The evaluation of the Draft Final Bid will be one of the factors which determine whether the Trust is ready for Closure of Dialogue.

5.4.3 Only Bid Deliverables that have changed since the Draft Final Bid will be evaluated at the Final Bid. The scores will then be combined with the Draft Final Bid Scores of the remaining deliverables to complete the evaluation.

Scoring of Bids

5.4.4 Scoring of all bids will be undertaken by the Evaluation Teams.

5.4.5 All scores will be reviewed by the Evaluation Moderation Committee before an evaluation is completed.

5.4.6 Each Bid Deliverable will be assessed for the extent to which the Trust's requirements have been met and any additional benefits offered using the scoring structure presented in Table 2 below apart from Cost which will be scored as described in section 5.6.

Table 2 Scoring of Bids

Score	General Definition	Criteria Based Definition
1	Unacceptable	Fails to meet requirements for almost all key criteria.
2	Very poor	Fails to meet requirements for many of the key criteria.
3	Poor	Fails to meet requirements for some key criteria.
4	Adequate	Meets requirements for all key criteria.
5	Good	Meets requirements / performs well for all key criteria and offers some additional benefits.
6	Excellent	Exceeds all project criteria and offers significant additional benefits.

5.4.7 The evaluation criteria to be used in the assessment of Bid Deliverables are presented in the Bid Deliverable tables presented at ***Appendix 3***.

5.4.8 The Trust intends to receive and evaluate the Bid through Bravo Solution. This will provide a robust audit trail for the Project.

5.4.9 Bids scoring 1 (unacceptable) will be assessed for impact by Core Project Team. Scores at this level for one or more Bid Deliverables may render the bid non-compliant.

5.5 Weighting

5.5.1 The Trust intends to evaluate the Bidder through the application of the evaluation criteria, scoring and weightings set out below. The Trust has decided to carry the CD stage 3 weights through to CD stage 4 (at a work stream level) so that direct comparison of the scores from interim submission to Drfat Final and Final Bid can be made.

5.5.2 The Trust will expect the quality score for the solution achieved during evaluation at Draft Final and Final Bid stage to equal or exceed the quality score achieved at Interim Submission. If this is not the case at Draft Final Bid stage the Trust will provide detailed feedback and will expect the Bidder to improve the Bid to meet the target by Final Bids.

5.5.3 Each main criterion corresponds with a workstream and has been allocated an overall weighting shown in Table 3.

Table 3 Weighting by main criterion / workstream

Main Criterion / Workstream	Weighting CD Stage 3	Weighting CD Stage 4/5
Cost	10%	10%
Clinical and Operational Functionality	34%	34%
Estates and Technical	24%	24%
Legal, Commercial and Finance	14%	14%
Hard FM	9%	9%
Subjective Assessment of Design Vision	9%	9%
Total	**100%**	**100%**

5.5.4 The weighting for each Bid Deliverable is set out in ***Appendix 3***.

5.6 Price Compliance

5.6.1 The Trust intends to score Cost as a Bid Deliverable.

5.6.2 The reference model to be evaluated will include an assumption that the SPV will provide 55% of equity (as outlined above) and with a capital contribution of £100m less Trust remediation costs (the value to be assumed will be provided once the Trust has an agreed specification and an estimated price for the works).

5.6.3 Bidders are set a price target of a first year target UP of less than £26.1m and a NPV of the UP over the operational period of less than £309.0m for their bid to be compliant. [to be adjusted for current rates]

5.6.4 The Trust may adjust the targets for the Bidder if the Bidder can clearly demonstrate that their solution will provide efficiencies in other Trust costs e.g. energy / nursing or if the Trust believes and can demonstrate that the Bidders solution will increase Trust revenue costs.

5.6.5 The Trust will at all stages apply a compliance test of price being less than target before evaluating the bids.

5.6.6 Provide that the Bidder complies with the hurdle the Bidder will score 100%.

5.7 Value for Money Assessment

5.7.1 Provided that the Bidder submits a bid which is compliant on price (and other compliance criteria are met) the Trust will evaluate all the Bid Deliverables as outlined in section 5 above. The evaluation will generate an overall weighted score for each Bidder.

5.8 Reference and Variant Bids

5.8.1 The Bidder must submit a Reference Bid.

5.8.2 The Trust will not consider Variant Bids at Final Bid stage that have not been explored with the Trust as part of the Dialogue phase of the process. If Variant Bids are to be proposed, The Bidder is requested to discuss their intentions with, and seek approval of, the Trust at the earliest opportunity during the Dialogue. The Trust will then give directions and any proposed limitations in order to avoid abortive work on the part of the Bidders as well as the Trust evaluation team. The Trust will retain the right to determine whether or not it will accept a Variant Bid

5.8.3 If the Bidder wishes to submit any Variant Bid, they should be aware that they will not be considered unless the Reference Bid has been submitted, as set out in the Bid Deliverables.

5.8.4 The deliverables are for the Reference Bid, and a clear statement of departures must accompany any Variant Bid. The basis of departure must be supported by the same level of detail as required for the reference Bid Deliverables. Depending on the nature of the Variant Bid this may also include a requirement for information not specified in the building and engineering deliverables.

5.8.5 As a minimum each Variant Bid shall contain:

- The Bidder's proposed pricing for the Variant Bid and proposed Unitary Payment
- The items specified for a Variant Bid only to the extent they differ from the Reference Bid, save for the financial submission where the information required must be submitted for a Reference Bid and any Variant Bid
- Assumptions, clearly specifying where the proposals differ from the Reference Bid

- A clear specification of such change to the terms of the Reference Bid and the effect (including pricing effect) of such variation from the Reference Bid
- Details of any amendments to be made to the Project Agreement

5.8.6 In each case, all such changes and/or amendments having been discussed and agreed with the Trust in advance of closure of the Dialogue.

6 Project Management and Administration

6.1 Communication

6.1.1 All communication with the Project Office will be made through BravoSolution to ensure that an effective audit trail is maintained. No direct communication with other Trust staff, outside of scheduled meetings, should be attempted, as they are not authorised to respond outside the formal channels. The Project Office will acknowledge each message within 2 working days and will respond by return or will indicate the timescale for a full response.

6.1.2 Communication requiring a phone call will be managed through the Project Office on this number: 0121 507 5566.

6.2 Requests for Information

6.2.1 The process for requests for information will be as follows:

- Requests for information will be sent via Bravo on the Trust Request for Information (RFI) form (as issued by the Project Office).
- The Project Office will acknowledge receipt of RFIs via Bravo within 1 working day.
- The RFI will be assessed in the Project Office and forwarded on to the relevant Project Team member to prepare the response.
- A response will be made within 5 working days of the RFI, unless this is not possible, in which case the Project Office will inform the Bidder when the response will be available.
- If the request has been sent in as 'Commercial in Confidence', the Project Manager / Commercial Manager will review the request and decide if this is appropriate. If, in the view of the Project Manager / Commercial Manager the request is not Commercial in Confidence, the request may be returned to the Bidder, stating that the Trust does not consider the request to be confidential to that Bidder and should they wish to proceed with the request, the Bidder must agree to its disclosure. If the Project Manager / Commercial Manager agree that the request is Commercial in Confidence, the Project Office will prepare the response, which will then only be sent to the originator of the request.
- The Trust will issue confidential responses via Bravo to the Bidder's secure response folder on Bravo.
- A database of all non-commercially confidential RFIs will be maintained by the Project Office. This will be available to all bidders on Bravo.

6.2.2 In the event of any difficulties using this system, contact should be made with the Project Office by phone on 0121 507 5566.

6.3 Data Room

6.3.1 An electronic data room has been established on BravoSolution. This facility contains information that Bidders may require during the procurement phase of the Project.

6.3.2 New documents, updates or data requested will be uploaded to the data room and will be available to all Bidders. E-mail alerts will let Bidders know when new information is available.

6.3.3 A list of the data room contents is presented in ***Appendix 6***.

6.4 Submission of Bid Deliverables

Electronic Submission

6.4.1 A response form on BravoSolution has been created for Bidders to return electronic versions of the Bid Deliverables in a secure environment. All Bid Deliverables must be submitted electronically as well as in hard copy.

6.4.2 All Bid submissions will be delivered via the BravoSolution secure portal before 12.00 midday local time on the relevant Bid submission date, as set out in Table 4.

Hard Copy Submission

6.4.3 Bidders should note that these instructions may change if the Trust amends its Standing Financial Instructions to allow electronic receipt of tenders. Bidders will be informed accordingly.

6.4.4 One hard copy, delivered before 12.00 midday on the submission date, as set out in Table 4 below, will be required to complete each Bid.

6.4.5 The packaging of the documents must not include any mark or identifier of the Bidder. It should be clearly labelled with the following:

MIDLAND METROPOLITAN HOSPITAL PROJECT PROCUREMENT DOCUMENTS

TENDER DO NOT OPEN

NOT TO BE OPENED BY PROJECT OFFICE BEFORE [DATE TO BE INSERTED]

The submission should be delivered to:

Simon Grainger-Lloyd
Trust Secretary
Sandwell and West Birmingham Hospitals NHS Trust
Trust Headquarters
1st floor - Health & Wellbeing Centre
Sandwell General Hospital
Lyndon
West Bromwich
B71 4HJ

6.4.6 Receipt of the hard copy will be recorded in the Chief Executive's office as a record of the formal submission. This delivery should therefore be made in good time. It is the sole responsibility of each Bidder to ensure that Bid submissions are received at the Trust by the closing date and time. Any Bidder failing to meet the closing date and time may be eliminated from the CD process.

Table 4 Submission Dates

Stage	Submission Type	Electronic / Paper	Submission Deadline
CD Stage 4	Draft Final Bids	Electronic and hard copy	2nd April 2015
CD Stage 5	Final Bids	Electronic and hard copy	25th June 2015

6.4.7 The Trust reserves the right to alter the bid submission dates.

6.4.8 Items that have not been explicitly requested as Bid Deliverables will not be considered by the Trust and must not form any part of the bid.

6.4.9 Bidders may issue appendices where these provide valuable background information in support of a specific Bid Deliverable, in which case they will be considered in the evaluation. Appendices must not contain any clarification, justifications or caveats relating to the Bid.

Format of Responses

6.4.10 All submissions made by Bidders must be written in English and be signed by an authorised representative of each relevant company or organisation.

6.4.11 The responses to the Bid Deliverables must:

- Be detailed, yet succinct and focused
- Follow the format and numbering convention specified in the Bid Deliverables and should be cross-referenced accordingly
- Use the correct proformas if specified in the Bid Deliverables- proforma references are included in the bid deliverable tables and the pro formas themselves can be accessed on Bravo
- Include a list of contents and should reference supporting appendices where indicated

6.4.12 Appendices must be cross referenced to the appropriate section of the Bid submission and will follow the same formatting conventions outlined above.

Return of Certificates

6.4.13 The Trust requires Bidders to make certain undertakings if they wish to remain in the competition. These undertakings include signing the following certificates, which must be completed and submitted with each bid submission. Copies of the certificates are provided in ***Appendix 7***:

- Certificate of Non-Canvassing.
- Certificate of Non-Collusive Tendering.
- Confidentiality of undertakings.
- PQQ Validation Certificate.

7 List of Appendices

Appendix no.	Appendix Name
1	Project Plan
2	Timetable for Bidder Meetings
3	Bid Deliverables
4	Draft tender documents for procurement of due diligence advisors
5	Funding Protocol
6	Structure of Data Room
7	Certificates
8	PF2 Equity Bid Information
9	Funding Competition Timeline

APPENDIX 9b – QUANTITATIVE VfM ASSESSMENT OF P21+ PROCUREMENT ROUTE vs PF2, BOTH USING THE HOSPITAL COMPANY DESIGN

Quantitative VFM Assessment using the Hospital Company Design (draft final bid) vs PF2

In addition to the Trust's exemplar design costing being refreshed for the ABC stage an additional costing exercise was undertaken in order to reflect the scenario whereby the bidder's design could be purchased and used as the basis for the PSC to be delivered via P21+.

A summary of the capital costs and how they compare with the exemplar are included in the table below:

Summary of Capital Cost Changes

Year ending	Revised PSC (current price base – PUBSEC index 223 Jan 2015)	PSC Carillion Design (current price base – PUBSEC index 223 Jan 2015)
2015/16	45.0	45.5
2016/17	125.1	126.4
2017/18	122.9	124.2
2018/19	17.4	17.6
Total Capex	**310.4**	**313.7**
GIFA m^2	**83,812**	**82,257**

The costing of Carillion's design was then used as the basis for the PSC and compared with the PF2 scenario.

Lifecycle and FM £/m^2 metrics were the same in both PSC scenarios.

A cost of £3.0m was factored in to this PSC scenario to meet any abortive and design purchase costs from Carillion.

The table below sets out the VFM position comparing the PF2 route to the two PSC options:

Option	NPV of Project Cost £m	NPV of risk retained by Trust £m	NPV of Equity Return as a result of 10% stake in SPV	Total risk adjusted NPV £m	VFM %
PF2 – Final Bid	361.2	20.3	(0.9)	380.6	n/a
PSC – ABC Stage – Exemplar Design	352.8	112.4	-	465.2	**18.2%**
PSC – ABC Stage – Carillion Design	356.7	112.4	-	469.1	**18.9%**

The quantitative assessment above demonstrates that the Draft Final Bid submission is 18.9% better value for money procured via PF2 than the PSC, based on Carillion's design.

The two PSC scenarios are similar in terms of overall cost and scale of building; however the upfront cost of purchasing the design results in a higher cost (and a worse VFM position).

Due to the Carillion design PSC demonstrating a higher VFM % than the exemplar no further sensitivities were undertaken based on this scenario.

APPENDIX 9c – REVISED QUALITATIVE ASSESSMENT OF PSC VIA P21+ PROCUREMENT ROUTE vs THE HOSPITAL COMPANY DESIGN VIA PF2 PROCUREMENT ROUTE

Qualitative VFM Assessment – Appointment Business Case Stage

Issues to consider as part of the continuous qualitative assessment between OBC and ABC

QUALITY OF COMPETITION PFI needs a robust competitive process to deliver fully its benefits. Delivering the long term outcomes at a good price relies on competitive tension during the procurement phase.		
Issue	**Question**	**Response**
Market abuse or failure	Is there any evidence from similar projects (in scope or location) to suggest that there will be a shortage of good quality financially robust bidders? Is the bid offered by the preferred bidder, in broad terms, not substantially above that for other similar PFI projects nor the risk profile substantially worse?	The Final and Interim Bid Submissions are, in broad terms, not substantially above similar PFI projects in terms of the construction, lifecycle and FM costs and the extent of risk transfer is considered to be higher than other comparable projects. The scheme at Royal Liverpool and Broadgreen University Hospitals NHS Trust was also closed with Carillion and the Trust has used benchmarking with that scheme as one of the mechanisms to ensure Value for Money ("VfM") has been maintained throughout this procurement process. Due to the single bidder status of this project, additional benchmarking procedures and more detailed assessment of the granularity of costs have been incorporated into the ongoing procurement to ensure a level of competition has been maintained.
Procurement issues	Was there a good response to the PIN/OJEU notice? How many potential bidders passed the PQQ criteria? Are the financial robustness and capacity of the bidders sufficient? Is there evidence of good competitive tension in pricing of risks etc?	There were 6 potentially capable bidders that responded to and attended the pre-market engagement. 3 potential bidders responded to the OJEU and passed the PQQ criteria. Bidders were large construction companies with the relevant experience and capability to deliver projects of this type and scale. Carillion submitted its Interim Bid Submission (12 December 2014) under competitive conditions. It was only after that submission that the Trust advised Carillion that it was the only remaining bidder. The bid submitted at ISOS was within the Trust's affordability and quality hurdles. The

		procurement has continued as if in competition and affordability hurdles and quality thresholds have continued to be monitored at the Final Submission stage. In addition, the Trust implemented a number of procedures whereby separate costs streams (Capex/Lifecycle/FM) have been benchmarked against other similar projects and industry benchmarks in order to maintain an element of competitive tension.
OVERALL	Overall, in considering this procurement, is the project team satisfied that there is a sound competition?	The project team was satisfied that competitive tension existed up to the point that the Interim Bid was submitted. For the Final Submission the Trust implemented measures to ensure maximum competitive tension was maintained and that VfM was delivered for the remainder of the procurement. These steps included: market testing, cost/benefit ratios and financial and quality hurdles.
EFFICIENT PROCUREMENT PROCESS A good procurement is important to sustain market interest.		
Issue	**Question**	
Efficient Procurement	Is there a realistic project plan, and has this been adhered to without undue delays? Are bid costs likely to be proportionate to the contract value? Will any aspect of the procurement impact adversely on market interest? Are there any problems emerging with the way the procurement is structured?	The project plan has been agreed as appropriate by approval bodies. The plan has remained on track since OJEU without any undue delays. Bid costs incurred by Carillion are expected to be 1-2% of the construction costs. This is consistent with other projects in this sector/of this scale. 2 of the 3 bidders who passed the PQQ criteria chose not to proceed with the scheme. This may have adversely impacted on future procurements. Market confidence may be restored if Carillion successfully completes the deal. The challenge has been how to drive and demonstrate VfM going forward. The Trust has implemented an approach discussed and approved by the Department of Health and HM Treasury in order to achieve this.
Authority	Does the procuring authority have the necessary resources	The Trust's resources and governance arrangements have been confirmed

Resources	to conduct a good procurement? Are sound project governance arrangements in place?	as sufficient by the Gateway review and have not yet been a constraint to the procurement process. The Trust has a full time Project Team and is supported by Professional Advisors.
OVERALL	Overall, is the way that the procurement process is proceeding likely to have an adverse impact on the delivery of VfM?	The procurement process could have an impact on VfM given that there is now a single bidder. Hence, the Trust has developed a series of mitigations to drive and demonstrate VfM in the absence of another bidder. The Trust Board is satisfied that this approach will deliver better VfM than the alternative procurement options.
RISK TRANSFER The decision to proceed with PFI is dependent on the market appetite for the project		
Issue	**Question**	
Wider issues	Is the competition delivering the proposed risk transfer? Does the Authority confirm that the nature of the deal and/or the strategic importance of the work still make it suitable for delivery through PFI? Is there still confidence that all the key VfM drivers will be preserved.	The Final Bid Submission received 2 April 2015 from Carillion is on the basis of accepting the risk transfer as per the standard contract. The Trust Board 16 January 2015 confirmed that the deal is suitable for delivery through PF2 and that the Trust's objectives are best met through that route. The Trust Board is confident that the PF2 route offers better value for money and that the key drivers for this (risk transfer, delivery timescales, construction inflation and funding rates) remain valid and unchanged from the assessment undertaken at Interim Submission.
OVERALL	Overall, is the risk transfer achievable, given an assessment of the competition, and the procuring authority's constraints?	Risk transfer is achievable and that has formed the basis of the Interim and Final Submission. Risk transfer remains as per the standard contract. Carillion have been required to meet outlined standards and affordability hurdles on both Interim and Final submissions in order to be accepted as a compliant bid. Where bids were found at any time to be non-compliant, the Trust reserved the right to terminate the procurement and not be

		responsible for any bid costs incurred by Carillion up to that point.

APPENDIX 10a – IM&T STRATEGY

Sandwell & West Birmingham Hospitals NHS
NHS Trust

Sandwell and West Birmingham Hospital NHS Trust
NEXT STEPS: The Informatics Strategy
2014-2019

Version 0.2 DRAFT

INFORMATICS STRATEGY 2014-2019

Owner Mr. Toby Lewis
Author: Ms. Fiona Sanders
Version: 0.2 DRAFT
Date 31st August 2014

Approvals **Health Informatics Steering Group**
Chief Executive
Trust Board

Version	Description of Version	Approval Body	Date
v0.1	First draft for review	HIS Senior Management Team	23rd June 2012
v0.2	Second draft for review by Informatics Committee, subcommittee of CLE	Informatics Committee	26th August 2014

This document has been distributed to:

Name	Date of issue	Version
HIS Senior Management Team	23/06/2012	v0.1
Informatics Committee	24/08/2014	v0.2

Contents

1 Executive Summary

The Sandwell and West Birmingham Hospitals NHS Trust (The Trust) Informatics Strategy, developed in 2012, set a five-year framework for transforming the Trusts capability and capacity for informatics. The objective of the strategy was to establish a delivery programme to provide the Trust with a platform of capabilities to meet the Trust's future operating needs. The Trust has and continues to deliver those capabilities by harnessing current and emerging technologies and information to achieve higher quality and safer integrated patient care that will improve outcomes for patients and service users.

The Trust is current a provider of acute and community services to the local health community and has a strategic objective to be the largest provider of integrated acute and community care within the NHS in England. In July 2014, the Trust received approval for the development of the Midland Metropolitan Hospital (MMH), as part of the Right Care, Right Here Programme. The new hospital in Smethwick will enable the integration of acute hospital services, support the development of improved primary and community care and replace the current aging and unsuitable hospital facilities. The development of the Midland Metropolitan Hospital is part of a wider programme of change in the local health economy that will deliver a new model of care to help people stay well and deliver care closer to home.

The Trust is already a provider of acute and community services to the local health community and the Right Care, Right Here Programme is already delivering real improvements to patient care and the development of the new hospital will complete this work. A significant building block in the delivery of integrated care is the transition from episodic based care to integrated care based on the needs of the patient and care delivered closer to home. This strategy continues to build upon and lever information and new technologies to support the Trust becoming a leading integrated care provider and articulate the vision for the Trust's strategic informatics platform which covers the period 2014 to 2019.

The revision to this strategy remains aligned with the national directives such as the Health and Social Care Act 2012 and *Everyone One Counts: Planning for patients 2014/15 to 2018/19*[1] and *The NHS belongs to the people: Call to Action*[2] and continues to support our Integrated Business plan to reflect the informatics roadmap between 2014 and 2019.

[1] NHS England, July 2013
[2] NHS England, July 2013

Our strategy continues to build upon our investment in technology and how our approach to information and technology will support the Trust deliver integrated, safer, better care for patients and local community. The strategy spans information for patients, service users, clinicians and other care professionals and remains aligned to the Health and Social Care Digital Services Vision[3] (HSCDS). The HSCDS builds upon the themes of *Liberating the NHS: An Information Revolution* which covers the requirements of clinical and non-clinical users and embraces the challenge of integrated care pathways across our local health community. HSCDS continues that theme by transforming the way health and social care services are configured, with digital as the preferred route wherever possible[4]

This informatics strategy does not advocate the introduction of large-scale information systems or set down detailed mechanisms for delivery. It provides a framework and a route map to lead a transformation in the way we use our information systems and the latest technologies to deliver changes and efficiencies in the delivery of safe, high quality patient care. This strategy addresses the needs of both clinical and non-clinical systems. It recognises the importance of technical and telecommunications infrastructure in the delivery of patient care.

The Trust's initial strategy was produced in 2008; and has continued to evolve to reflect changes in technology and our landscape however the strategy for 2014-2019 allows us to reflect and refine and our Informatics Roadmap, based on the crystallisation of our role as an integrated provider of acute and community care and growing acceptance at both local and national level of the importance of digital and technological platforms for the delivery of integrated care. The 2014 revision to the informatics strategy reflects:

1. The approval of the Midland Metropolitan Hospital;
2. The progress that we as a Trust have made against our informatics plan to date;
3. The changes in both the NHS landscape and the strategic priorities of the Trust and the emerging informatics strategies of our local Clinical Commissioning Groups.
4. The cessation of the NPfIT programme;
5. Everyone Counts: Planning for Patients 2014/15 to 2018/19;
6. Putting Patients First: The NHS Business Plan 2014/15-1617;
7. The NHS belongs to the people: A call for action

[3] Replaces the Integrated Customer Service Platform (ICSP) and is derived from the Department of Health Information Strategy, *The Power of information* 2012.
[4] Digital First – According to the Department of Health (2012), Digital First's aim is to "…reduce unnecessary face to face contact between patients and healthcare professionals by incorporating Technology into these interactions."

This strategy recognises that technology alone will not resolve the problems that already exist in process and procedures. Delivering the infrastructure and systems to support the delivery of patient care is not enough on its own. It will require us as users of the systems to work in different ways to lever the advantages offered by the new capabilities.

Importantly this strategy recognises that informatics is always advancing and therefore demands upon the solutions in place will need to evolve to meet the needs of users. To address the changes in our operation and clinical environments we will review our strategy annually to ensure continued alignment with national and local needs, clinical and patient need and the business objectives of the Trust and the Clinical Commissioning Groups.

1.1 Our Strategic Vision

The delivery of the informatics strategy will improve the quality, safety and consistency of the care that we deliver to our patients by realising the enormous potential of health informatics. The Trust's strategic vision is ***"to be renowned as the best example of an integrated care organisation".***

We recognise that significant improvements to the quality of patient care and the needs of our community will be met by the provision of an ***"integrated health care system which connects and shares information across our community"*** where we provide high quality clinical information to support the delivery of high quality safe patient care across a high quality and sustainable infrastructure.

Our approach to ***"integrated health care system which connects and shares information across our community"*** to our local healthcare community we must balance competing needs, making the best use of limited resources and develop the optimum solution which builds on existing investments and provides a coherent road map for development of our vision. To deliver our vision we have identified primary infrastructure and application projects that will enable service transformation within our local health community. These guiding principles are detailed in section 2.3.

Sandwell and West Birmingham Hospitals NHS Trust

Informatics Vision

Supports the Trust's strategic objective "to be renowned as the best example of an integrated care organisation". We will develop an integrated health care system which connects and shares information across our community, supported across a modern and flexible infrastructure which will meet the needs of our local healthcare community and provide high quality patient information at the point of care. To achieve this we will:

1. ***Use technology and Information to drive integrated care across the entire health and social care sector, both within and between organisations;***
2. ***Recognise technology as an enabler for service transformation;***
3. ***Harness technology and information to improve the quality, safety and consistency of our patient care;***
4. ***Develop and strengthen the role of health informatics in clinical practice;***
5. ***Harness technology and information to develop a Paper light environment;***
6. ***Change our organisational and professional behavioural mind-sets to recognise that information and technology can improve the quality and safety of patient care. We recognise that technology alone, will not resolve the procedural and operational challenges that already exist;***
7. ***Strive to ensure that patient information is recorded once, as a by-product of the delivery of patient care, and that this information is shared securely between those providing care within our local health community. We will ensure that this is supported by consistent use of information standards that enable data to flow (interoperability) between systems whilst keeping our confidential information safe and secure;***
8. ***Ensure that our electronic care records evolve and mature in line with the needs of patient care and our objectives and become the source for core information used to improve our care, improve services and to inform research and***
9. ***Develop an informatics culture where all health and care professionals take responsibility for recording, sharing and using information to improve the quality and safety of the patient care we deliver.***

Figure 1 Sandwell and West Birmingham Hospitals NHS Trust Strategic Vision

1.2 Delivering of the Strategy

As reflected in the executive summary the Trust has taken into consideration changes in the local and national landscape. Since the development of the Trust's informatics strategy in 2012 the Trust has:

1. Articulated its strategic vision ***"to be renowned as the best example of an integrated care organisation"***
2. Received approval to commence the procurement of the Midland Metropolitan Hospital;
3. Seen the consolidation of national expectations and guidance for a digital future;
4. The closure of the National Programme for IT and the commencement of procurement activities;
5. Established an Informatics Capital plan and Long term Financial Model (LTFM) for the delivery of the Informatics Strategy

Historically, the Trust's Informatics Strategy was based upon the deployment of NHS Connecting for Health national applications and associated health systems. As a result of the Trust's alignment with the then national policy, the change in central funding and organisation and the expiry of a number of core systems the Trust is now in an enviable, albeit daunting position and has the opportunity to refresh and agree its own strategic direction which meets our needs as an integrated provider of acute and community services. Whilst this provides a number of opportunities and benefits for the Trust; it also produces a number of investment challenges. We have resolved these challenges by bolstering investment in the Trust's informatics capability, which is reflected in the revised version of the LTFM. However it should be noted that the Trust still remains in the lower quartile of investment in this area.
However the revised LTFM submitted and approved in 2013 provides an investment pool in the region of £45 million. However it should be noted that in view of the demands placed upon the Trust's capital allocation the Trust is taking a pragmatic view on delivering the Informatics Strategy.

Therefore for the Trust to deliver the Informatics Strategy within a climate of economic and financial uncertainty the Trust will approach the delivery of this strategy by the ***"aggregation of marginal gains"***[5] This approach will ensure that the Trust builds upon existing investment and knowledge and delivers the enhanced capability within capital and revenue targets. This will allow the Trust to migrate from the current operating model to the future state which is defined in figure 2 and our delivery approach is reflected in figure 3.

[5] Dave Brailsford, Team GB Cycling Performance Director

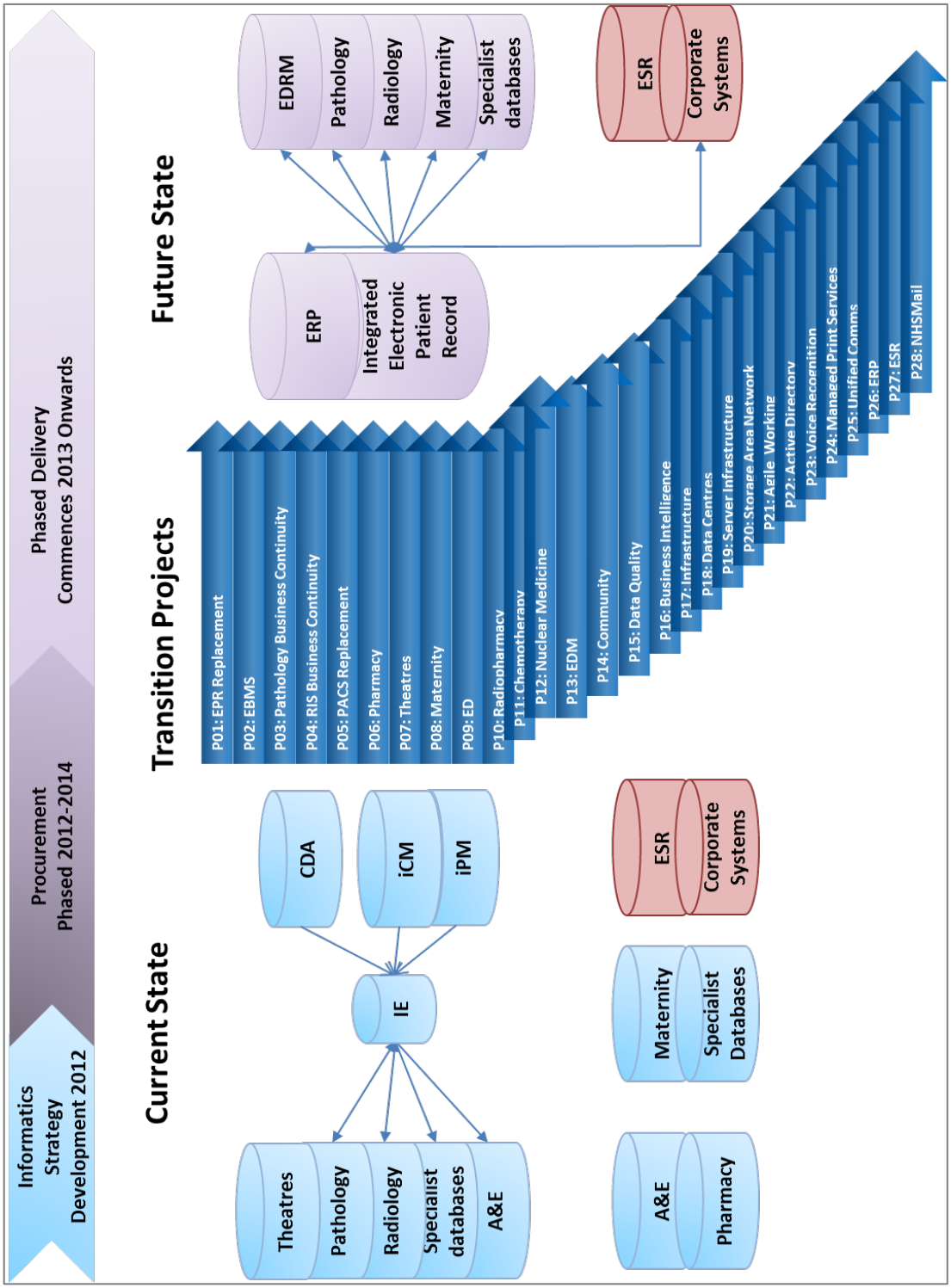


Figure 2 Migration to the future operating state

Sandwell and West Birmingham Hospitals NHS Trust
Informatics Delivery Approach

We will build upon the existing investment made by the Trust in informatics by:

1. ***Recognising that there is a Trust wide imperative to co-ordinate all investment and implementation to ensure compliance with the overall Trust vision.***
2. ***The Trust will "make better use of what we have" by levering the capabilities of current systems by optimising current functionality and process.***
3. ***The Trust will ensure that a replacement EPR solution provides Clinical 5 functionality and adopt a "connect all approach" to the core retained solutions***
4. ***The Trust will embark on incremental transformation, replacing priority systems first. By adopting this approach the Trust recognise that there will be a requirement to replace systems during the migration to the integrated solution in order to maintain patient services.***
5. ***The Trust will consolidate and integrate clinical and non-clinical systems to support the delivery of safe patient care and support the Trust meeting both clinical and strategic business objectives;***
6. ***The Trust recognise that there will always be a requirement to provide specialist departmental systems such as pathology, radiology, radiopharmacy and chemotherapy. These systems have specific clinical functionality. However these systems must be capable of integration in order to meet the overall Trust vision***
7. ***The Trust will initiate a number of transformation work streams which will drive out efficiencies and support innovative flexible service within our local health economy;***
8. ***The Trust's strategy is to continue to consolidate the clinical systems into a single Electronic Patient Record (EPR) solution to enable better integrated care records and reduce the complexity of managing multiple systems and interfaces.***
9. ***The Trust will invest in new technologies and system capabilities that complement this approach***
10. ***The Trust will invest in a number of emerging informatics technologies to support the delivery of patient care.***

Figure 3 Delivery Approach

Whilst significant progress has already been made with the Trust's informatics agenda, there are substantial further steps which must be taken over the next 5 years to provide informatics capability that the Trust requires in order to deliver the improvement in efficiencies and innovation in patient care and meet the overall Trust business objectives.

1.3 How the informatics landscape will change

This document provides an overview of the Trust's Informatics strategy and how we will deliver the strategy to meet our objectives in 2019. The previous strategy developed in 2012, and reviewed in 2013 has been refreshed to reflect the changes in both the NHS landscape and the strategic priorities of the Trust. The development of this strategy draws upon the Trust's Health Informatics Review, the Informatics Strategy 2012 to 2017, the cessation of the NPfIT programme, and the initiation of the Transformation Plan which articulates the Trust's cost saving.

Health informatics in its broadest sense represents the provision of clinical information to improve the delivery of patient care and strengthen the clinician-patient relationship. This strategy has been structured to represent the systems, infrastructure and services that must combine to deliver the Trust's vision of informatics in the future model illustrated in figure 2; detailed below are the principle changes that will occur in our landscape

Theme 1

Now	2019
Information is in silos with limited sharing of data between primary, acute and community care and little no sharing of data with local government agencies.	An integrated patient record, that is available and accessible across the patient pathway.

Theme 2

Now	2019
Our service delivery in the community is dependent on fixed locations and or requires staff to go back to base locations to collect information. The Trust is already piloting community midwifery using mobile technology.	The Trust will have a flexible and robust infrastructure that can be accessed from both fixed community locations or independently across 4G technologies

Theme 3

Now	2019
Our clinical records are paper based; the Trust has in excess of 10 million current and archived case notes	The Trust will have an electronic medical record which is stored electronically and available across our local health network.

Theme 4

Now	2019
Data quality is increasing in operational importance but is not always an operational priority. Patient data is contained in operational silos	Clinical and operational colleagues are connected with patient data and recognise the importance of high quality patient data in the delivery of patient care. Patient data trapped in legacy silos is migrated to the electronic medical record.

Theme 5

Now	2019
Our IT maturity and capability is evolving but to deliver our vision for 2020 we will need to investment in education and training,	Employees and patients will have a high level of understanding and capability with the technologies that are deployed in our local health network.

1.4 Purpose of Document

This document provides an overview of the informatics strategy and changes that will occur in our landscape between now 2019, it is broken into the following sections:

Section 1: The executive summary provides an overview of this document.

Section 2 Provides the strategic for the delivery of the informatics strategy and reflects both local and national drivers.

Section 3 Delivering integrated care: The acute community transition. This section provides an overview about how the Trust will provide integrated solutions into the community;

Section 4 Delivering the integrated care: The Applications, provides an overview of the current status of IT systems in the Trust and the plan for their integration into our future state model;

Section 5 Migration to paperless operation: How the Trust will migrate to an electronic record

Section 6 Delivering integrated care: Data migration: this section describes the approaches that the Trust may consider to data migration to achieve our informatics vision and the importance of data cleansing to both operational and clinical care.

Section 7 Delivering integrated care: Information: this section describes the approaches that the Trust may take to information management.

Section 8 Delivering the integrated care: The Infrastructure describes the Trust's plans for infrastructure and telecommunications and how this will support our vision;

Section 9 Delivering the integrated care: Corporate Functions outlines the Trust corporate systems and proposals for development of these systems;

Section 10 Delivering the integrated care: The Service, how our service is currently configured to deliver the strategy;

Section 11 Delivering the integrated care: The management approach that the Trust will take to the management, both delivery and on-going service provision of the Health Informatics Service;

Section 13 Delivering the integrated care: The governance structure that will oversee the delivery of this strategy and ensure that it meets both clinical and business needs;

Section 14 Delivering the integrated care: The key risks, it should be noted that this is not a definitive risk log and all transformation projects will be required to keep a project specific risk register;

Section 15 Delivering the integrated care: The Approach to funding

2 Strategic Context and the Trust's Strategy for the Health Informatics Service

In the past 20 years digital technology has revolutionized how business is done in a number of major industries, yet healthcare is one industry which is lagging and yet the introduction of digital technologies will have profound effect on the delivery of care to patients, how patients engage with the Trust and how the Trust will benefit in the efficiencies and cost savings by delivering technology enabled care.

The Trust is operating in an environment of unprecedented change both politically and economically. The NHS Health and Social Care Act 2012 puts clinicians at the centre of commissioning, and frees up providers to innovate, empowers patients and gives a new focus to public health. This combined with significant changes in legislation and central informatics policy has informed the development of our informatics strategy. Whilst there are a number of demands placed upon our informatics requirements, which are from seemingly disparate and conflicting sources it is clear from both local and national initiatives that informatics is placed firmly at the centre of patient care in the 21st Century.

Used effectively Information and IT will facilitate and drive integration across care settings, however to achieve this and generate the greater efficiencies and productivity required the Trust will need to maximise the technology it already has and ensure a cohesive and cogent approach to the development of the Health Informatics Service. In developing our informatics strategy we have taken into consideration key national and local initiatives.

2.1 National Drivers

In developing our strategy we have reviewed the following key national strategies:

"The Power of Information", the NHS information Strategy advocates joined up care and access to patient information for healthcare professionals, patients and carers in care settings.

"The NHS belongs to the People: Call to action" published in July 2013 which defines a vision for the delivery of integrated care centred on the patient rather than aligned to episodes of care but also looks to close the £30 billion funding gap by applying innovation transformation and technology to closing the funding gap and changing the NHS service delivery model from acute, episodic based care to integrated care closer to home.

"The NHS Mandate" published in November 2013, which is the first mandate between the Government and the NHS Commissioning Board, setting out the ambitions for the health service. The Trust's Informatics Strategy supports the NHS Commissioning

Board Mandate for the NHS to be paper free by 2018 and for all communication between secondary and primary care to be digital by 2015.

The HSCDS draws upon the in-depth and important feedback from the Government's consultation on Liberating the NHS: An Information Revolution. The key theme emerging from this consultation is the need to join up information across health, social care and public domains, providing greater access to personalised information.

"National Programme for IT" – NHS Connecting for Health closed on the 31st March 2013 dismantling of the National Programme for IT in September 2011 changed the informatics landscape and restored local control over decision-making and enabling greater choice for NHS organisations. In addition this change removed central procurement's these are now the responsibility of the Trust. To date the Trust has committed to taking the IT solutions provided by NPfIT; this includes the Trust EPR solution, Radiology, PACS system, NHS Mail and the Electronic Staff Record.

2.2 Right Care Right Here Programme and the MMH Project

The Trust is committed to *Right Care Right Here (RCRH) Programme* and partnership working across Birmingham and the Black Country[6]. The programme has received high levels of stakeholder engagement and this level of engagement and subsequent endorsement by the Trust's Commissioners, the Sandwell and West Birmingham CCG, Birmingham Cross City CCG and Birmingham South and Central CCG resulted in the approval to proceed with the Midland Metropolitan Hospital in July 2014.

The MMH Hospital Project is central to the RCRH programme and model of care. Technology, infrastructure and information are a key enabler to the delivery of the RCRH model of care. The programme involves strong focus on health promotion and ambitious transfers of activity into the community hospitals and primary care.

The key features of the new model of care are enabled by technology, infrastructure and information and require further structural review of the informatics service to meet the new model of care. The new model of care will be driven by the smooth, timely flow of information in the form of an integrated health care record, between professionals and across locations.

[6] Birmingham City Council, Sandwell and West Bromwich CC, Sandwell and West Birmingham Hospitals NHS Trust. Birmingham Community Health, Black Country Partnership, Birmingham and Solihull Mental Health Trust and Sandwell Metropolitan Council

As can be seen from the national and local drivers' informatics and the use of digital services is increasing in profile and is essential to the delivery of patient care. Used effectively Information and IT will facilitate and drive integration across care settings, however to achieve this and generate the greater efficiencies and productivity required the Trust will need to maximise the technology it already has and ensure a cohesive and cogent approach to the development of the Health Informatics Service.

In order to support both the strategic and local requirements, the Trust must look at the informatics systems which are installed and establish a coherent and rolling improvement plan to meet the strategic needs of the Trust and migration to the future operating model.

2.3 Guiding Principles: Clinical Informatics

The vision for informatics in the Trust is to "develop a connected and integrated healthcare system, supported across a modern and flexible infrastructure which will meet the needs of our local healthcare community and provide high quality patient information at the point of care."

We will use health informatics to achieve operational efficiencies, tangible cost savings and improved patient outcomes. We will achieve this by providing a collaborative and integrated environment, where critical patient and business information is available to employees and healthcare professionals. In order to provide this environment we will apply nine guiding principles:

Sandwell and West Birmingham Hospitals NHS Trust Informatics Guiding Principles

1. ***The Trust will build on existing investment to achieve a connected and integrated electronic patient record which will operate in a paper light environment;***

2. ***The Trust will develop an incremental improvement plan that will result in the development of an integrated solution for the Trust. The Trust will not embark up a "rip and replace" system replacement approach;***

3. ***Our procurements and deployments will be clinically led to ensure that the technology deployed enables service transformation;***

4. ***The Trust will maintain the existing level of functionality within core systems. It should be noted that a number of core systems will reach their contract expiry date in 2013 and will need to be re-procured, the Trust will procure those systems in line with the overarching principles;***

5. ***Certain core systems are not considered fit for purpose, these will be replaced in line with the core principles;***

6. ***The Trust will endeavour to reduce the number of standalone departmental systems and focus on the integration and/or replacement for these systems via the EPR solution;***

7. ***The Trust recognises that some specialist departmental systems will be retained and these have been identified as part of this of strategy. Given the evolving nature of service and systems this will continue to be reviewed;***

8. ***Any systems outside of the core EPR, whether existing or new, must comply with interoperability standards;***

9. ***All systems outside of the core EPR solution must be support timely data accessibility.***

Figure 4 : Informatics Guiding Principles

3 Delivering integrated care: The Acute Community Transition

Successful delivery of an integrated acute and community informatics solution requires the Trust and partners to challenge the information silos that exist within the NHS. Whilst this is not insurmountable it will require us to work collaboratively with partner organisations and also change the way in which we work. In refreshing our informatics strategy to meet the demands of an integrated model of care the Trust has taken into consideration guidance from the productive community, produced by the NHS Institute for Innovation and Improvement, and current national guidance associated with the development of the detailed care record. It should be noted that in developing the approach three assumptions have been made:

1. Good quality and timely information are essential for the delivery of integrated care;
2. The Trust cannot act in isolation in establishing vertical integration of care within the local health economy;
3. Data and IT are essential to driving integration

3.1 Technology within the Community

The Trust has deployed technology in the community initially via the Transforming Community Services (TCS) and latterly with the deployment of infrastructure, mobile devices and community midwifery. The Trust has three current work streams:

3.1.1 Infrastructure and mobile devices

The Trust has actively deployed connectivity across N3 and N4 connections to improve the infrastructure connectivity between service delivery locations. Whilst technologically straightforward, in recent months the commercial aspect remains challenging with the commercial responsibilities clouded by prime responsibility following the dissolution of the PCT and clear ownership responsibilities between the CCG and other service providers still to be defined.

The Trust is mitigating this by the deployment of 4G technology. This provides flexibility in terms of physical service delivery and removes the reliance on N3/N4 connections and also improves the real time data capture and access to the patient record. The use of 4G technology also enables greater flexibility in service location thereby reducing the reliance on costly point to point configurations. This approach has been deployed in the deployment BadgerNet application in antenatal and postnatal community.

It should be noted that as for August 2014, the future of the Community of Interest Networks (CoIN) within our local healthcare economy is under review by the CCG.

3.1.2 Access to other clinical systems

In addition to piloting services over 4G on mobile devices, community midwives now have access to NHS Mail, Trust intranet and other clinical systems from their mobile devices via VPN. This maximises the time with patients, improves record keeping and data entry and improves the provision of information to patients.

Anecdotally it has been reported that GPs do not like the system, on investigation this is because midwives are no longer double data entering into the GP system and the maternity system. As part of the development of the future state operating model developed by the community midwives GPs are advised of any changes to woman's care by EDI.

3.1 Community Systems

The Trust's catchment covers Birmingham, Sandwell and West Bromwich and has to deal with community integration to both localities. Sandwell represents approximately 50%[7] of the Trust's community activity to the Trust. The primary system is use with primary care and the community is SystmOne. The Trust has actively deployed and continues to deploy the SystmOne solution in community. This in effect has allowed the community services provided by the Trust to become paper-light and in some instances paper free.

Across the Birmingham locality, the BT RiO solution is in use. The Trust has recently transferred school nursing services to Birmingham Community and the transfer of data has illustrated the challenge of integration across acute and community services. This is discussed further in sections 3.3.2 and 3.3.3.

This level of technical integration solution is to providing vertical integration across the care pathway. As part of the development of the EPR requirements the Trust will evaluate the needs of community to ensure that the Trust procures a solution that meets our future operating model and also the service needs of our local health community. The Trust will also evaluate the integration of the Your Care Connected (YCC) and its deployment in this service environment.

3.1.3 Agile Working in Community

SystmOne offer a variety of mobile solutions including use of SystmOne via laptops and PDAs. The Trust has deployed the SystmOne Briefcase to support agile and mobile working in the community project.

[7] Based on the total number of XX

3.2 YCC

The Trust is one of the Seventeen health and social care organisations across Birmingham, Sandwell and Solihull that will participate in the tender for a joint central care record system.

NHS Central Midlands Commissioning Support Unit is leading the tender on behalf of local clinical commissioning groups, mental health, acute, community and ambulance trusts as well as local councils.

The objective of the Central Care Record is to make information for an initial 1.6m people available to health and social care staff, wherever the patient is being treated. The Trust is supportive of the Central Care Record Initiative and sees this as a major enabling solution that will integrate care across our local health community.

3.3 Implications for the Trust's Informatics Strategy

In line with current guidance and our understanding of operational needs the Trust has focussed on providing access to clinical systems, infrastructure and leverage of existing solutions within the community however this model is at risk as a result of planned changes in centrally funded contracts, changes to local service provision and operational requirements within the Trust. It is therefore proposed that the Trust establish a strategic user forum in order to progress this important strategic area.

3.3.1 Service Continuity

The Trust has monitored the changes within the community informatics market and with particular reference to the replacement of the Trust's EPR system. The timing of the SystmOne contract renewal is significant in that it coincides with the end of central funding in 2016 for all systems procured via the national programme. These contracts conclude between July and December 2016, although procurement routes exist for both community and acute solutions via GP SoC II (lots1, 2 and 3) and the G-Cloud Framework respectively it is important that engagement with both the CCG and CSU is initiated so that the informatics strategies of all organizations within the local health community are aligned to support vertical integration and shared care.

It should be noted that service continuity can be secured, but will require joined up and integrated decision making within the local health care community and with the CCG. In order to inform that decision it is important to take into the consideration the needs of both primary care, community and acute providers of care. Understanding this perspective is essential for vertical and for horizontal integration.

3.3.2 Management of patient journey: The Community and Primary Care Perspective

The Trust's community services currently use the TPP SystmOne solution. TPP SystmOne is also the principle supplier of solutions in primary care within the CCG. With primary care and the Trust's community services both using SystmOne there is already a level of integration between the acute and primary care settings. In real terms, if service providers have a legitimate relationship, have agreed to share data and the patient has consented to their data being shared service providers with the correct permissions are able to access additional information held with SystmOne. For example a patient attendance at OT or physiotherapy would be available to view by the GP.

However this model of data sharing is not available to clinicians in the acute setting and treatment provided in the acute setting is communicated to primary care by sharing of discharge or outcome letters. Therefore the level of vertical integration is restricted.

The current model of data sharing between community and primary care is currently at risk and only remains viable whilst SystmOne is the principle supplier to community and primary care services. For example the Trust has lost the contract for the provision of School Nursing Services to the Birmingham Community Healthcare NHS Trust (BCHC) Significant challenges have been experienced with alignment of data sharing principles and settings and this remains an operational challenge even though the BCHC currently share the same instance of the SystmOne. In addition BCHC has indicated their informatics future is based upon migration to the BT Rio solution. This will in essence break the model for data sharing within the community and also break the current vertical integration that exists between primary care and acute. This would be exacerbated further if any primary or community care providers were to change supplier. In addition SystmOne is a closed system with limited interoperability and functional limitations on the extract of data which restricts significantly the integration opportunities with Trust EPR solutions. For the majority of organisations seeking a replacement EPR community functionality is not a significant requirement; however this is not the case for the Trust who is already a provider of integrated acute and community care.

3.3.3 Management of the patient journey: the acute perspective

Integral to the provision of integrated patient care is the ability to collect the right data and share that data in a timely fashion. Furthermore the ability to manage the patient flow and provide an enterprise wide approach to the management of the patient care provides benefit to the patient, the providers of care and the managers of this care. This is increasingly important with the changes in demographics and patient care and service models placing greater emphasis on long term conditions and care in the community as opposed to the management of acute episodes of care. The ability to access other clinical systems is fundamental. From the perspective of acute service provision the preferred option is to have the detailed care record collected and shared from within one

location, that being within the EPR. Whilst holding community data and service information within the EPR will support the Trust in managing the patient flow and resource utilisation across the Trust, it will restrict primary care access to services provided in the community.

3.3.4 Management of the patient journey: Our approach with partners

The Trust recognises the importance of technology to delivering services within the Community and to providing integrated care to our patients. The Trust also recognises that the future of informatics within the community can be supported by the Trust's approach of *"share all and connect all"* however this cannot be developed in isolation by the Trust. It should be noted that service continuity can be secured and but will require joined up and integrated decision making within the local health care community and with colleagues from the CCG and the CMCSU. To that end the Trust will establish a joint working party to review the implications for informatics within the local community. This will be established in Q3 2014 and will inform the Trust's EPR procurement.

3.4 YCC

The Trust is one of the seventeen health and social care organisations across Birmingham, Sandwell and Solihull that will participate in the tender for a joint central care record system. NHS Central Midlands Commissioning Support Unit (CMCSU) is leading the tender on behalf of local clinical commissioning groups, mental health, acute, community and ambulance trusts as well as local councils and has received funding from the NHS England Safer Hospitals, Safer Wards Fund.

The objective of the YCC is to make information for an initial 1.6m people available to health and social care staff, wherever the patient is being treated. The Trust is supportive of the YCC Initiative and sees this as a major enabling solution that will integrate care across our local health community and it is therefore considered as a major enabler of our integrated acute and community model of care.

3.5 The Summary Care Record

The Trust is already using the Summary Care, but will now start the rollout of the solution within the Emergency Department and it will be used by the August 2014 intake of Junior Doctors (FY1 and FY2).

4 Delivering integrated care: The Applications

The Trust's initial informatics journey like many organisation was aligned to the National Programme for IT (NPfIT). The Trust had planned to take the CSC Lorenzo product as replacement for its legacy EPR solution set. However, significant slippage in the programme and the change in national direction, allow providers to "buy and implement their own IT services and solutions".

The Trust is currently running on a PAS (iPM, iSoft) as delivered and supported by Computer Sciences Corporation (CSC), the NPfIT local Service Provider. This system is provided to the Trust through the NPfIT and it is currently nationally funded and therefore provided at "no cost" to the Trust until the contract ceases in 2016.

In late 2002, the Trust procured an electronic patient record system (iCM supported by iSoft); iCM at that time was the main EPR product offering from iSoft until the adoption of Lorenzo in 2004. iCM at that time was a well-established advanced EPR with full functionality. However, with the cessation of the partnership with Eclipsys, iSOFT froze development until 2009.

In 2007, following the merger of the City and Sandwell Hospitals in 2002, the Trust developed a Clinical Data Archive (CDA) the primary purpose of which was to store the historical data from the two legacy PAS solutions in the Trust. These PAS systems held traditional PAS data, results, clinical letters, clinical alerts, allergies and some other clinical documents. The CDA, which uses modern web-based technology, was designed as a historical Trust-wide archive for patient administrative and clinical data. As a result of the delay with Lorenzo, and with increasing demand from clinicians for better functionality than was available from iCM to view clinical data, the CDA has been enhanced and is now the main data warehouse for the storage of all clinical information which is either imported from legacy systems or sent via HL7 messaging via the Trust Interface Engine (TIE).

In summary the iPM, iCM, CDA and TIE solutions have developed organically and have been adapted and developed in response to clinical and Trust needs, pending the stabilisation and implementation of the Lorenzo position (through the NPfIT).

The initial plan, as part of the rollout of NPfIT applications to the North, Midlands and East cluster, was that the CSC iPM PAS, eVolution Maternity, ORMIS Theatres and the local iSoft iCM system would migrate to the CSC/iSoft Lorenzo Regional Care Solutions.

The Trust's recognises the historical foundations of the electronic patient record in use and recognises also that in order to meet the requirements there needs to be a radical change in our technology platforms in order to meet, develop and deliver our vision of a:

"An integrated and connected healthcare system supported across a modern and flexible infrastructure. It will meet the needs of our local healthcare community and provide high quality patient information at the point of care".

To date, advances in medicine and biomedical sciences have leveraged technology, however the tools and technology used to process information and support the delivery of patient care has only recently gained greater prominence in clinical practice. Essential to the delivery of integrated care is the availability of patient information, in real time at the point of care. The Trust recognises the importance of information in the care setting and our future operating model is based upon leveraging our existing technological investments, rationalising existing solutions and integrating to provide an integrated and connected solution to provide an integrated patient record.

To deliver our vision of an ***"integrated and connected healthcare system"*** to our local healthcare community we must balance these competing needs, making the best use of limited resources and develop the optimum solution which builds on existing investments and provides a coherent road map for development and delivery of our vision. Delivery of our vision requires a blended approach technically, that is aligned to the following principles:

1. **EPR CORE:** The core of electronic patient record will be integrated and provided by a single supplier. This will be based upon the clinical 5[8]. The five key elements of the Clinical 5 for secondary care are:
    I. A patient administration system with integration to other systems and sophisticated reporting[9]
    II. Order Communications and diagnostic reporting including pathology and radiology. This should include tests ordered in primary care and the community
    III. Clinical letters (clinic outcome areas, discharge letters and summaries and Accident and emergency letters) with coding including discharge summaries, Clinic and accident emergency letters
    IV. Scheduling for beds, tests, theatres
    V. ePrescribing including inpatient prescribing, medicines management, outpatients and to take out medicines

The Clinical 5 as defined by the *HSCIC* and the Trust's planned extension to reflect the migration to a paper free operating model is detailed below in figure 4 below.

[8] Informatics Planning Guidance2010/2011
[9] The future of Community as outlined in section 3 is subject to further negotiation with stakeholders.

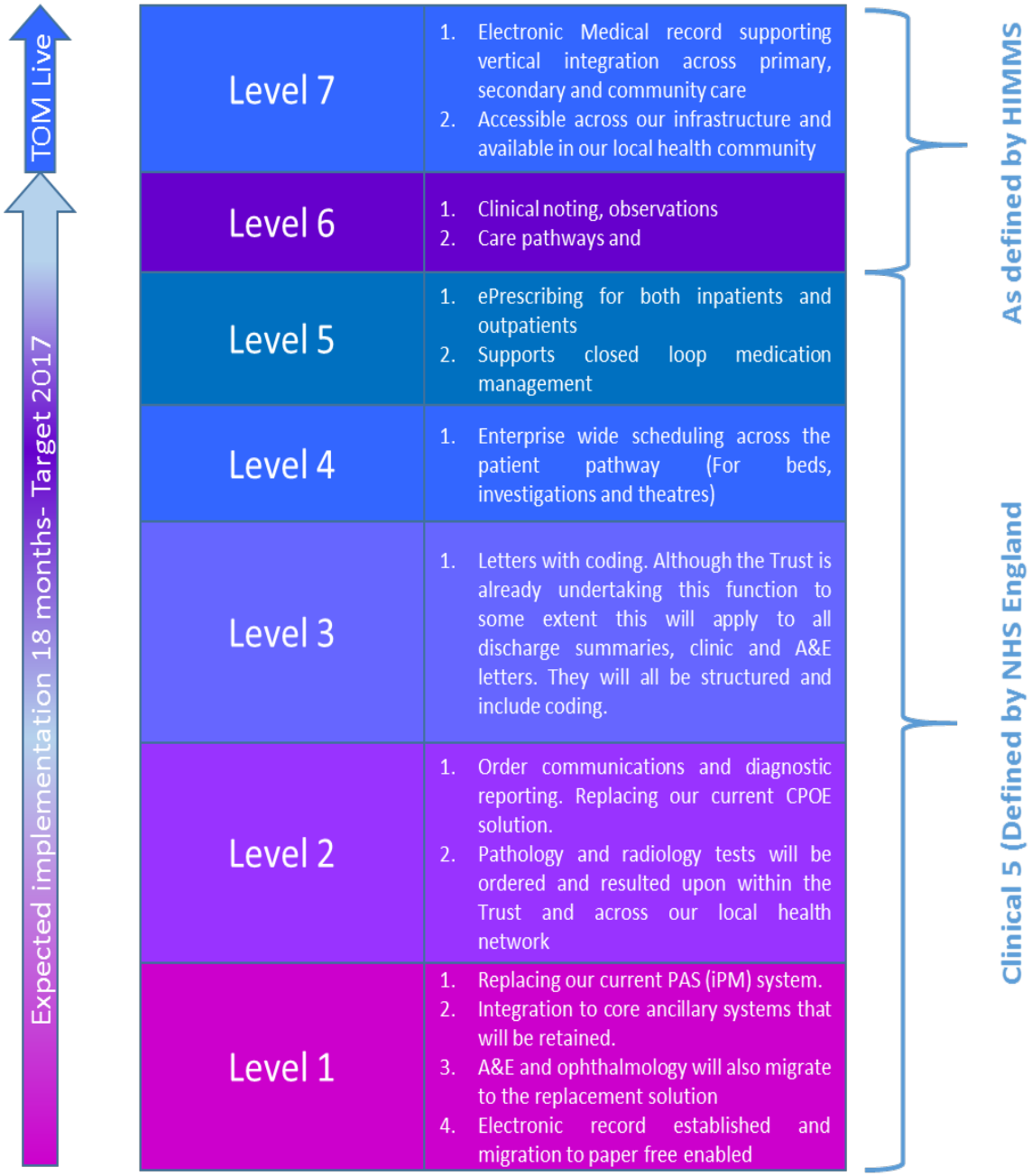


Figure 5 Migration to the Electronic Medical Record

The Trust is currently working at level 2 with some elements of level 3 implemented. Following the Trust's approach replacement, integration and migration the Trust objective is to reach level 5 by 2017/18

2. **INTEGRATED SOLUTIONS:** The Trust will retain and integrate the following core systems:
   I. Electronic Bed Management System (eBMS)[10]
   II. Clinical Data Archive (CDA)[11]
   III. Radiology and PACS VNA
   IV. Pathology
   V. Maternity
   VI. Specialist departmental solutions: Specifically used for the deployment of clinical services, these include: chemotherapy prescribing, radiopharmacy, nuclear medicine.

3. **MIGRATED SOLUTIONS:** The Trust will migrate to the replacement EPR
   I. Accident and Emergency
   II. Theatres
   III. Ophthalmology
   IV. eRostering
   V. VitalPAC (Clinical observations)
   VI. Specialist departmental systems such as cardio physiology and neurophysiology will also be reviewed.

The Trust's requirements for a replacement EPR solution is detailed in the EPR summary specification version 0.7.

4.1 The starting point

Clinicians are increasingly frustrated with the number of applications they need to access and also the amount of information held in silos within the Trust and across the health community. Integrated care beyond the boundaries of the Trust is the accepted service model and this needs to be supported by solutions and governance arrangements over the sharing of patient records.

[10] The Trust will retain the eBMS solution, however it should be noted that some functionality will be transferred to or replaced by the core EPR.
[11] The Trust's approach to CDA is subject to an on-going strategic review

Workflow is a key component to ensure that clinicians are presented with the right information at the right time to make effective clinical decisions enabling patients to receive appropriate treatment. It also leads to improved team work across the clinical domains reducing delays in each handover process and ultimately reduced length of stay prior to discharge from the Trust. Patient scheduling is carried out across multiple systems so there is no holistic view of the patient journey and a number of manual processes are in place to ensure the Trust delivers on key operational targets

4.1.1 The case for change

In developing the Trust's requirements and approach to the future EPR solution the Trust has considered options (A to E) detailed below:

Option A: **Do Minimum** – Stay as we are with iCM and iPM solution set.
Retention of the current solution is not viable. CSC will offer both iPM and iCM via the G Cloud framework IV, however CSC have already confirmed that there will be no further development of this solution. In addition the iCM presents the Trust with a number of resilience problems and therefore it is not viable to retain.

With regard to the retention of iPM it does not meet the operational requirements to support the migration of A&E and ophthalmology to the core EPR and it would require the Trust to develop a portal approach and integrate to achieve levels 2 to 5 of the clinical 5 for secondary care.

Option B: **Best of Breed** – Procure the best solutions for each area and integrate through inter-operability tools and standards.

Options C: Integrated EPR – Procure a fully integrated EPR which could include a mix of supplier options and varying degrees of return on investment (ROI) depending on how advanced functionality is. This aligned to the Trust's approach to retaining a core solution and consolidating to the core a number departmental solutions and ensuring robust integration of core solutions to provide a vertical view of integrated patient care. I considering this approach the Trust undertake education and evaluation of core suppliers in this market.

At this point it should be noted that the Trust is eligible to participate in the Department of Health/CSC Restated Project Agreement (formerly known as the Interim Agreement). The Trust is currently engaged in pre-qualification due diligence having previously stated to NHS CfH and CSC that the CSC Lorenzo Care Management did not meet the Trust's operational and future strategic needs. The Trust advised CSC and NHS CfH in December 2011 that the Trust will not consider an implementation date until Care

Pathways, Guidelines, Protocols and Advanced Clinical Decision Support are put back into the contract. However it should be noted that the Lorenzo Care Management product has evolved and therefore the Trust is undertaking a further evaluation. It should be noted at this stage future of inpatient prescribing and medicines management is not part of the Restated Project Agreement and this is a mandatory requirement in the Trust's high level specification

Option D: Open Source – Since the development of the Trust's informatics strategy in 2012, there have been a number of improved open source offers. This includes NHS Vista championed by NHS England and also commercial offers such as the proposed development by Hewlett Packard of a full electronic patient record. It should be noted that NHS England is also working with IMS Maxims, UHB in-house PICS e-prescribing and the US Veterans Association system VistA.
This route would allow the Trust to retain and develop the CDA and eBMS to become a bespoke active Electronic Patient Record, however the cost of development to the Trust would be prohibitive and therefore this option has been discounted.

Option E: Outsource – The fifth option that the Trust has considered is to procure or outsource the Trust's Health Informatics Solution to a partner organisation within the Greater Birmingham area. For example University Hospitals Birmingham NHS Foundation Trust or Heart of England NHS Foundation Trust. As a result of the Trust's being a provider of integrated and acute care this is not considered a viable option.

Given the current operational and strategic needs identified within the Trust it is proposed the preferred option is option C which is augmented by a connect all and share all approach to deployment. The Trust will proceed to market test for an integrated EPR solution with best of breed functionality retained for core departmental systems.

4.1.2 Procurement Timetable

The Trust had anticipated the EPR procurement would be via the competitive dialogue route, however national confirmation of the Restated Project Agreement has led the Trust to review the solution against the Trust's high level summary specification.

In June 2014 the Trust Board approved the commencement of procurement activity and pre-engagement due diligence of the CSC Restated Project Agreement and the appointment of an EPR procurement lead. The Trust is pursuing a dual procurement route and subject to board approval will enter into discussions with HSCIC regarding pre-qualification due diligence. In parallel the Trust will enter into a series of supplier education and engagement decisions to confirm the route to market. A recommendation will be made to the board in December 2014.

It should be noted that should the Trust elect to pursue the Restated Project Agreement the Trust must complete the pre-qualification engagement by December 2014, with implementation to have completed by July 2017. The procurement timeline is detailed in appendix A.

4.1.3 Approach to Transition

The Trust will adopt an incremental approach to transition. Transition to a single integrated solution would occur over the medium and longer term. This would include core clinical, diagnostic, scheduling and non-clinical functionality. Our plan, over the next 2-3 years will be to rationalize, and where aligned to the Trust's vision, replace existing solutions. The objective being to reduce the number of systems and the complexity of managing those systems and ensure that system replacement supports the overall Trust vision.

The Trust would transition from the current systems to the new integrated solution at a pace that fits with the clinical and organisational requirements as well as the Trust's own capacity to change. Under this model, the Trust would only retain those specialist systems that cannot be delivered effectively through an EPR.
Based on best practice a typical implementation would take some 2 – 3 years from contract signing to being fully implemented Although timescales can be altered, it highlights the need to commence market testing for integrated solutions and for the Trust to commence planning for the replacement of the current EPR.

Once such a solution is fully deployed it is anticipated that it would be our primary clinical platform for the next 10 – 15 years, and would enable the Trust to drive workflow and pathway redesign across departments and the wider healthcare community.

4.2 Enhancing the Core: System Migration

As part of the replacement of the core EPR solution we will also undertake the migration and decommissioning of a number of current solutions. These are detailed below.

4.2.1 Emergency Department

The Emergency Department (ED) is an important health informatics system for the Trust. The Trust completed the phase 1 consolidation of on to a single A&E platform in May 2013 and has established a Trust wide A&E solution based on the MSS Ltd patient first solution and decommissioned the System C Sigma ED system and the

CSC solution. The Trust plans to incorporate the A&E/ED solution in within the planned EPR procurement.

4.2.2 Theatres

The Ormis theatre system is provided as part of the CSC solution set and is provided at no cost to the Trust until 2016. Whilst there are no pressing issues with the solution, in order to facilitate enterprise scheduling across the patient pathway and support the deployment of care pathways the theatre systems will be incorporated into the EPR replacement solution.

4.2.3 Ophthalmology

The Trust operates a specialist ophthalmology unit, the Birmingham and Midland Eye Centre (BMEC) currently utilises the Medisoft Ophthalmology solution which record clinic visits, assessments, investigations and ophthalmic procedures and allows clinicians to consolidate records and scan from multiple sites and ophthalmic instruments. The Trust is also in the process of procuring an enterprise wide vendor neutral archive and replacement viewer for ophthalmology and which will be provide a consolidated archive of all dicom images. It is therefore planned that the Medisoft functionality will be provided by the replacement EPR solution, as with the theatre system migration the combined effect of a vendor neutral archive and viewer and migration of inpatient and outpatient activity to the replacement EPR, it will significantly improve the provision of integrated care with a holistic view of the patient record.

4.3 The Beyond Core: Connected Systems

The proposed solution articulated by the Trust in section 4.1.1 option C is based on a core solution provided based on a robust deployment of the Clinical 5, the migration of core solutions to the Clinical 5 and the retention and integration of a number of core service solutions, our approach to these are detailed in sections 4.3.1 to 4.3.8

4.3.1 Pathology

UPDATE REQUIRED FROM ANDY HAYLING

4.3.2 Radiology Information System (RIS)

The Trust Imaging Department is a mature and informed user of technology, and is a leader in innovation and service re-design. The Department is a major stakeholder of

HIS, this combined with its innovation and leadership gives the department a unique position in service redesign and the transformation programme. Current intelligence suggests that the demands for service redesign will accelerate in the next 18 month.

The Trust uses the HSS CRIS Radiology™ Information System and has successfully completed the deployment of a business continuity solution and completed the upgrade of the Radiology Information System. The Trust will plan for a further refresh of the radiology information system in 2017/18

4.3.3 Picture Archive Communication (PACS) System & Vendor Neutral Archive (VNA)

The Trust is currently uses the MERGE PACS solution and is currently out to procurement for a replacement PACS viewer and VNA. The VNA will provide dicom storage for all dicom images and will provide an enterprise storage solution for all dicom images including those produced in ophthalmology, cardiology and histopathology.

4.3.4 Storage Area Network

The Trust has deployed a storage area network which is a dedicated network that provides access to consolidated data storage and is primarily used to enhance the Trust's storage capacity. This storage capacity is principally used for non-dicom images and will be retained by the Trust.

4.3.5 Pharmacy – Stock Control

The Trust uses JAC Pharmacy which provides stock control and dispensing functionality The JAC Pharmacy system does include a prescribing module. To achieve full benefits from ePrescribing, it is proposed that the procurement of pharmacy is included in the EPR procurement.

4.3.6 Maternity

The Trust has deployed the BadgerNet Maternity Solution provided by Clever Med Ltd. The BadgerNet Platform offers users the ability to create a seamless patient record across Maternity Units as well as Neonatal, Paediatric intensive care. It is anticipated that BadgerNet will continue to be the Trust's preferred solution; however this will be reviewed in the context of the EPR solution as part of the planned refresh in 2017/18.

4.3.7 Chemotherapy prescribing

The Trust procured and deployed the industry standard Chemocare solution for the management of chemotherapy prescribing in 2012/13

The full introduction of electronic prescribing will improve standards of clinical governance and facilitate risk management by providing a fully auditable record of all chemotherapy prescribed and administered. To meet this requirement the Trust will evaluate the solutions available for chemotherapy prescribing and their integration with the ePrescribing/EPR solution, however given the complexity of chemotherapy prescribing and medicines management it is anticipated that the Chemocare solution will be retained.

4.3.8 Radiopharmacy

The Trust's radiopharmacy system was built in-house and is now unsupported. It is used to produce documents which the Trust needs to legally transport radioactive materials. If the system is unavailable there are significant delays to supplying our external customers. The department have expressed concerns over the systems processing of data particularly in relationship to the measuring of radioactive content and management of units of measurement and document production.

The new system will support compliance with quality standards, and if networked to the rear clean room, will support the department achieve a paper free operation and improve levels of microbes within the clean area. Failure to address the deficiencies in the system will compromise the Trust's license to produce radiopharmaceuticals.

Given the specialist requirements for both nuclear medicine and radiopharmacy the Trust will consider a joint procurement for an information system.

4.3.9 Nuclear Medicine

The Trust has developed the Nuclear Medicine Information system in-house and this now needs to be placed on a sustainable support platform and replaced with a commercially sustainable product. This will maintain and improve the tracking, dosing and quality control records associated with nuclear medicine doses and drugs. Given the specialist requirements for both nuclear medicine and radiopharmacy the Trust will consider a joint procurement for an information system.

4.4 Electronic Bed Management System

Generally, much of the data and information relating to the patient journey is known but is not readily available or systematically recorded. To minimise the impact to patient care

and operational management and mitigate the limitations within the Trust's current EPR solution the Trust has developed and implemented an in-house bed management tool that provides clinicians with a real-time view of patients on the ward and the discharge planning. This tool has become an essential and supports the daily board round

This system facilitates the better co-ordination of information and help to manage patient flows by consolidating real time information from a variety of sources. Additionally, this information should be made available to staff with the minimum of interaction so that information can be made available ideally "at a glance". This not only supports patient management at a local clinical level but also via organisation wide views such as those required to manage capacity from a central point.

The Trust had initially envisaged that eBMS would be a temporary solution until the replacement EPR was deployed. However as eBMS has become an essential tool in the development and management of patient flow and capacity the Trust now expects to retain the eBMS solution and deploy it in conjunction with the replacement EPR. It should be noted that eBMS functionality will be revised and some will be transferred and implemented within the EPR solution.

It should also be noted that the Trust will implement a code freeze on eBMS **from December 2014**. This will support the planning and development for the service transition and exit from the current EPR and transition to the replacement provider.

5 Migration to paperless operation: Electronic Document Management

In January 2013 the Secretary of State for Health announced the NHS should be paper free by 2018 and should have the mechanisms in place to communicate with primary care electronically by March 2015. Whilst compliance with national directives remains a Trust priority, there are also a number of strategic and operational requirements which are to progress to a paper free environment, which falls into the following categories:

1. The future operating model for the Midland Metropolitan Hospital assume a paper free operating environment;
2. Services with in Ophthalmology, Community and other specialties are either paper free or actively pursuing a paper light operating model.
3. Effective patient care needs real time accurate data, much of the information held on paper is duplicated on many of the clinical systems or on shared network drives across the organisation. Leaving in the main ward and clinic based clinical notes that are handwritten and external referral letters that are the sole copy in the patient based paper record. Access to this information is not only based upon clinical need but is essential to providing integrated patient care.
4. Moving to a paperless operating model will drive out efficiency and cost reductions associated with the storage and handling of paper records.

Clearly a document management solution is integral to the Trust's future operating model, and where that documentation is available across the patient pathway and in a variety of clinical settings. The Trust established the Clinical Data Archive (CDA) as a passive repository of electronic documentation. The CDA holds over 20 years of electronic documents. Based on experience of a number of organisations in a variety of operational domains the Trust has decided at this point not to pursue the scanning and archiving of paper records and at this stage the Trust has established the following principles to migrate to paper free operating environment:

1. The CDA will be used is a keystone for the development of the electronic record and it is envisaged that it will remain as an interim solution and available, either through direct data migration or through patient context access within the EPR;
2. The Trust, via the Year of Outpatients Programme will be establishing eReferral management and electronic triage. This will establish the electronic patient record for all new patients referred to the Trust
3. The requirement to scan existing records will be reviewed by the Trust's medical records committee, however it advised that only a sub set of the records will be scanned for existing patients and this will be to an agreed protocol;

6 Delivering integrated care: Data Migration

The delivery of the Trust's Informatics strategy and particularly the deployment of a replacement EPR raise the challenge of data migration. The success of the EPR deployment and effective delivery of both operational performance and the delivery of an integrated model of patient care requires the Trust to take clear ownership and strategic control of both our clinical and operational data. Irrespective of the proposed options pursued by the Trust, data migration will be a key work stream within the programme. The issue of data quality, data integrity and ultimately the data migration strategy is not entirely an Informatics decision, it is one of the main strategic decisions that the Trust will take and is a common to all EPR options currently being explored by the Trust.

One of the key decisions the Trust will make as part of the data migration strategy is whether to "migrate or not". Full data migration represents the most desired approach; however this process is complex, resource intensive in both manpower and funding. The Trust's data migration represents a challenge in terms of migration planning for the following reasons:

1. The Trust has a legacy data migration problem as a result of the PAS mergers at Sandwell General Hospital and City Hospital in 2007;
2. The Trust has an on-going data quality challenge which is evidenced by the 18 week RTT reporting issue;
3. The Trust, as part of the Informatics Strategy must consider a number of data migrations which include not just the migration to a replacement EPR but the data migration associated with the deployment of the PACS VNA and also the take on of data from systems identified in section 4

Delivery of the Trust's informatics strategy will place the Trust's data migration strategy under the spotlight. The legacy data quality issues identified and the stringent requirements for system migration will require the Trust to challenge existing views of data access and retention policies.

A full data migration may be achieved but at a cost to the organisation in terms of resources and quality. An alternative approach to data migration is based upon taking a hybrid view of migration and developing an integrated approach to legacy data. This alternative approach to the full migration scenario is based upon a hybrid view of data where some data is retained on the legacy system and an integration platform is established for both legacy and live data.

A key deliverable which will run parallel to the EPR procurement is the development of the Trust's migration strategy.

7 Delivering integrated care: Information

The provision of "…***high quality patient information at the point of care"*** is essential in the delivery of patient care, the management of our performance and our business. The Trust recognises both the clinical and operational imperative of information and in July 2014 re-configured the Health Informatics Services and re-located the Information, Data Quality and Clinical Coding Team within the Operations Directorate. This embeds the information and data quality agenda within the frontline. To meet the demands of statutory reporting, data quality, capacity and performance management the Trust has established a business intelligence function

7.1 Business Intelligence

Access to relevant and timely information enables rapid decision making ensuring the Trust is making the right strategic decisions either for long term planning purposes and operational decisions ensuring that patients are receiving the right care at the right time. Both would improve the effectiveness and efficiencies in the management of our services and resources.

To achieve the full benefits of BI, the Trust must take an enterprise wide, strategic approach to BI rather than an ad hoc tactical approach to information management. The greatest efficiencies come from integrating data historically siloes in financial, operational and clinical systems. A strategic approach to BI, which cuts across the organisation, requires buy-in from not only Trust executives but also corporate and clinical staff.

Finally, it is important to ensure that the Business Intelligence Platform is underpinned by a robust and managed technology platform. The physical infrastructure drives performance, reliability, flexibility and integration of the system and must be considered as part of the wider Service Management and Infrastructure strategy at the Trust.

The delivery of a business intelligence function within the Trust which has the capability and capacity to support operational data quality, performance management and capacity planning is a priority for the Trust in 2014/15.

7.2 Data Quality

The Trust is aware of the need to maintain and improve data quality and the data quality challenge is linked to performance and the delivery of how quality care.

The increasing demand for the provision of information within shorter timescales and the support of the 18 week patient pathway means the Trusts no longer have the luxury of being able to perform extensive data quality checks before information is released. Consequently, it is more important than ever that information is recorded promptly and accurately at source, and is 'fit for purpose'. Embedding data quality in operations

highlights this importance and demonstrates the Trust's commitment to improving operational data quality.

Improving data quality is more about encouraging positive attitudes than installing the best IT systems. The delivery of Electronic Patient Records will ensure comprehensive patient-based health care records are delivered and this certainly widens the scope of what information is currently available to support the delivery of patient care.

Internal validation is a pre-requisite of any modern IT solution and should be an essential feature. In addition, the greater the integration of systems to support the EPR, the more likely it will be to support data quality and reconciliation of information.

The current Data Quality policy has been reviewed and updated. A detailed data quality and reporting plan will be developed to ensure accuracy of data from all major IT systems to support trust performance targets. A major focus will be on achieving robust real-time data input by users of IT systems and operational ownership. As part of the involving needs of the Service the Trust will review the role of data quality and embed the responsibility and teams within the Clinical Groups.

7.3 Clinical Coding

Clinical Coding has become a critical function for the Trust following the introduction of Payment by Results. Coding is currently carried out using ICD-10 and OPCS-4. It is likely that the standard of SNOMED-CT will be adopted in the future with the implementation of EPR and clinical documentation. The implementation and migration from ICD-10 and OPCS-4 to SNOMED CT is a major implementation exercise and presents a risk the Trust, the strategy for migration to SNOMED CT is subject to a separate development. It should be noted that HSCIC have released an information standards notice (ISN) for the introduction of SNOMED CT by 2015, this requirement is currently under review.

8 Delivering integrated care: Infrastructure

8.1 Our Infrastructure challenge

The Trust has a mature and well developed IT and telecommunications infrastructure that supports the delivery of IT systems to departments across the main sites and also to community sites and staff homes. The Trust sees investment in the network as a strategic priority after a number of years of under investment. A maturing and flexible infrastructure is essential to the Trust achieving our vision to develop and delivering ***"An integrated and connected healthcare system, supported across a modern and flexible infrastructure which will meet the needs of our local healthcare community and provide high quality patient information at the point of care".***

Investment in this core infrastructure is essential to allow rapid and reliable deployment of existing and new systems, new technologies and above all support the delivery of services into our local health community. Demand for access to systems and adequate resources to allow those systems to expand (storage capacity etc.) is continually increasing and the Trust must ensure that there is planned growth in all the key areas so that the reliability and resilience of these systems is not reduced or compromised. In addition the Trust must take into consideration the commissioning impact and management of both Midland Metropolitan and those sites retained by the Trust; this is outlined in sections 8.1.1 and 8.2.1

8.1.1 MMH

The infrastructure and network design and installation plus maintenance are included within the specification for MMH. The Trust will require the successful bidder to design and build a single integrated network delivering wired and wireless coverage at MMH. This network will carry both voice and data.

8.1.2 The Retained Estate: Network Improvement

In addition to the commissioning of MMH the Trust will retain the following facilities across the estate; this is locally known as the retained estate.

On the City Hospital site the Trust will retain:

I. The Birmingham Treatment Centre completed in July 2005

II. Birmingham and Midland Eye Centre which will continue to accommodate Ophthalmology Services.

III. Sheldon Block (to accommodate a range of acute and community services)

The Trust will also retain elements of Sandwell General Hospital to deliver a range of outpatient and day case acute services not transferring to the MMH

Community services for the Right Care Right Here Programme will be delivered from Rowley Regis Hospital which will also deliver a range of acute and community services.

The Trust will also retain an intermediate care centre at Leasowes.

8.1.3 City Data Centre and Switchboard Relocation

As part of the Trust's investment in the retained estate the Trust will be required to relocate the computer room and switchboard at City to a location on the retained estate.
The Trust has three data centres (although the third is now utilised as a switch room as result of compromised fire-suppression, power and air supply) the operational data centres at City and Sandwell provide a resilience to the Trust. A new data centre was procured and installed at Sandwell in 2010 and services have been transferred from the legacy room over the last couple of years. A small number of services remain in the old computer room (core network switches, backup facility) but all the essential servers are now located in the new custom built facility (located in the site of the old mortuary).
The new Sandwell data centre was built to a high specification and has robust air conditioning and UPS protection in place.
The existing centre at City is around 30 years old and whilst it was a custom built computer room it is currently located on the part of the estate earmarked for disposal. As part of the transition planning for MMH the Trust will relocate the City computer room and telephone exchange to a location on the retained estate

8.2 Our Infrastructure Requirements

The delivery of the Trust's Informatics strategy is dependent on the Trust's infrastructure.

The Trust infrastructure is absolutely fundamental to:

1. The use of systems, communications and the future operation of the Trust;
2. The use of modern Storage Area Networks (SANs) and replication/backup of data between data centres is dependent on fast dependable network links;
3. The demand for mobile access to IT through the use of campus wide Wi-Fi networks requires a robust network infrastructure to deliver;
4. The Trust's future operating model requires a robust infrastructure

The development and rollout of the infrastructure across the estate will continue to enable the delivery of these services. Outside of the Trust the network now extends into a range of community sites that were previously managed by Sandwell PCT.

In addition the move towards agile is driving the demand for connectivity to the Trust network at an increasing number of sites that either have limited or no N3 connectivity available. With the movement towards “agile” working there is also a rapid increase in demand for access to systems from outside of the Trust network, specifically from staff in their homes etc. The provision of robust access to the Trust network through the use of Virtual Private Networks (VPN’s) is essential.

A project to develop a “public” Wi-Fi network within the Trust for patients/visitors to access will be established in October 2014.

To support the development of the use of mobile devices (iPads etc.) within the Trust a mobile device management (MDM) service has been established and deployed to the existing devices in use within the Trust (principally iOS devices). Our principal work streams delivered via this strategy are detailed below:

8.2.1 Wide Area Network (WAN)

A major deliverable of the Capital Programme in 2014/2015 I the upgrade to the WAN, a fundamental step to improving capacity and laying the foundation for the merger of data and voice services. The investment in the Trust’s WAN this year has allowed the Trust to decommission the edge network and the Trust is now on a resilient network with diverse routing.

8.2.2 Local Area Network

In addition to the investment in the WAN the Trust is also undertaking a major investment of the LAN with an upgrade, to switches, cabinets and cable.

8.3 Server Infrastructure

The Trust has implemented strategy for the server infrastructure based upon a “virtual” environment. Virtual server technology allows many servers to be run on a small number of high powered physical servers.

8.4 Storage Area Network (SAN) Infrastructure

Modern data centres have moved away from the traditional model of each server having its own local data storage (hard drives) towards the concept of shared storage. In this model all the servers are connected to a separate network by high speed adapters that allow storage space on a large central pool of hard drives to be configured as if it was local to that server. This pool of storage is known as a SAN.

The use of SAN technologies allows the Trust to flexibly and effectively provide storage capacity, however the Trust consumption of storage capacity is increasing and whilst the capacity purchased in 2012 was planned to provide growth for a number of years the expansion of this service is reflected in the LTFM and capital plan.

8.5 Agile Working

The delivery of high quality healthcare is increasingly dependent upon technology, both within the Trust and within the local health care community. Today's workplace is no longer a static physical place and a variety of devices from laptop to tablet to smartphone are in use within the Trust. The objective of agile working is to bring people, processes, connectivity and technology, time and place together to find the most appropriate and effective way of working to carry out a particular task. The Trust's approach to agile working was piloted initially as part of the estates rationalisation programme, however the concept of agile working remains appropriate as the approach underpins the development of service delivery and future operating model in community locations.

8.6 Active Directory

The Trust Active Directory (AD) service underpins almost all of the existing IT systems by providing a single directory of staff and devices. This directory is used by many of the Trust IT systems to validate and authenticate users. The Trust will upgraded the current Active Directory environment from the existing Windows Server 2003 servers to Windows Server 2008. This upgrade helped to provide a more robust service through the enhancements in the latest software through better security facilities, improved controls and capabilities. The Trust will continue to review and plan for future upgrades in line with the implementation of an enterprise licensing agreement.

8.7 Year of Outpatients (YoOP)

The investment in the Trust's infrastructure is an enabler to the delivery of the Informatics Strategy but also the delivery of IT enabled change within operations. In 2014 the clinical back off ice programme was rebranded as the YoOP it is a transformation programme which is enabled by a robust infrastructure and is the primary capital programme within 2014/15. It represents a major investment in infrastructure and presents a significant transformation to the clinical and back office operations.

YoOP is described in this strategy in terms of the infrastructure. It combines a number of existing digital technologies to support the capture of patient information and the recording of outcomes. The aim of YoOP is to;

1. Digitise the referral process by capturing referral information from multiple entry points.
2. Supports the introduction of a digital work flow management system.
3. Supports the digital build of the electronic patient record from the point of referral;
4. Improves paper free communication between secondary and primary care.
5. Supports the mobility of the clinical workforce by the utilisation of mobile technologies.

To deliver the YoOP the Trust will build upon the current infrastructure investment and deploy five industry standard technologies:

1. Electronic document management and transfer functionality including messaging and workflow solution
2. Build upon the Trust's clinical letters platform and improve the communication between the Trust and Primary care.
3. Deploy speech recognition technologies.
4. Deploy check in desk and screen calling functionality
5. Deploy the new NHS e-Referral Service in late 2014, a replacement to the current choose and book service.
6. Deploy print bureaux and managed print services, this is further outlined in section 8.8

8.8 Clinical Back Office Programme Managed Print Services

Currently the Trust maintains a significant network of colour copiers, printers and multi-functional devises (MFDs) throughout the three sites. A significant number of these are stand-alone printers. They also cover a number of manufacturers, including Ricoh (predominantly system printers) and Hewlett Packard (local printers). The equipment base is diverse comprising both owned and leased equipment. A significant number of these are approaching end of life. Maintenance of these devices come under the HIS service desk and second line technical support or through a managed service contract for the MFDs. This leads to in-effective use of technical resources, re-active approach to print repairs, poor user experience, poor utilisation of printers and expensive commodities.

The Trust requires the managed print service to provide:

1. all print equipment required to support printing across the Trust (including multi-functional devices);
2. proactive maintenance of all printing equipment including the use of devices that automatically alert a central server to any printer problems;
3. monitor usage of printing devices, providing intelligence to the Trust on who is printing and at what volume, as well as the rate of use of printing supplies to support more efficient purchasing;
4. centrally co-ordinate and support print related policies, such as black & white duplex printing by default, ensuring policies are adhered to throughout the Trust;
5. support the Trust in meeting its environmental and sustainability obligations and act as an environmentally responsible organisation;
6. Optimisation of print service over time to support on-going cost savings and delivery of service that supports the differing print needs across the Trust.

Use of multi-functional devices which are networked and support 'follow-me' printing and capabilities is key to the implementation of agile working and to an efficient and effective print service. Multi-functional devices provide faxing and scanning capabilities in addition to printing and will reduce the number of devices required across the Trust.

A managed print service has the capability to develop custom interfaces as required for legacy systems that cannot connect to networked printers and for future systems.

The Trust would expect to develop a print reduction strategy that aligns the incentives across the different operational and transformation projects. This strategy will also need to link and align with the electronic document strategy in section 5 of this document.

8.9 Unified Communications and location Based Services

The investment in infrastructure will enable the deployment of the unified communications and locations services. Whilst this is an existing technology that is routinely deployed in the private sector the NHS has been slow to invest in this technology. The deployment of an industry standard technology can provide significant advantages to the delivery of safe and effective patient care which will support service delivery in both the acute and community domains of care:

8.9.1 Unified Communications

Unified communications (UC) is the integration of real-time communication services such as instant messaging (chat), presence information, telephony (including IP telephony), video conferencing, data sharing (including web connected electronic whiteboards aka IWB's or Interactive White Boards), call control and speech recognition with non-real-time communication services such as unified messaging (integrated voicemail, e-mail, SMS and fax). UC is not necessarily a single product, but a set of products that provides a consistent unified user interface and user experience across multiple devices and media types. There have been attempts at creating a single product solution however the most popular solution is dependent on multiple products.

The Trust has already started the implementation of an IP telephony solution as a result of the introduction of agile working and has other UC elements in place (voice messaging, video conferencing) in certain areas, however the major benefits of UC are dependent on wide scale adoption and availability of these new solutions which to date has been limited due to the legacy infrastructure in place.

Migration from the existing PABX solutions to IP telephony can be achieved through a gradual transfer over a number of years. This would reduce the risk of implementation in critical locations and enable the embedding of solutions in safer environments such as office locations initially and in parallel in clinical areas so there is a backup solution.

The move to IP Telephony provides a potential platform for tighter integration of IT systems and improvements in communications flow as a result. Some areas of improvement are highlighted below:

1. **Presence awareness** – IP Phones can be integrated with systems to determine if a particular member of staff is available (by virtue of the fact that they have logged into

their phone), and potentially route calls to the most effective type of connection (voice, video, instant message).

2. **Single number ID** – individuals could be contacted using a single number incorporating multiple devices e.g. office number, mobile numbers, off-site numbers, home numbers (setup by the user and hidden to callers with rules supporting routing preferences). This supports the removal of multiple portable devices (mobile, good technology, bleeps and pagers) carried by doctors, other clinicians and on-call teams. It would facilitate flexible working arrangements, reduce delays in routing calls and also re-route calls back through the Trust for charging and quality monitoring.
3. **Reduction of bleep/pager and directory services** - will reduce the demand for switchboard services and realise consequent savings, whilst reducing risk through minimising delays in contacting the right clinical support team, on-call managers or individuals. This will require a change in current processes and working practices, including users more effectively managing their own call rosters.
4. **Integration with medical devices and clinical applications** - will support the provision of key data and clinical alerts to clinicians to improve clinical decision making and the patient care experience.

The move from standalone telephony solutions to unified Communications solutions will typically entail integration of telephony with desktop PC's and laptops to deliver seamless connection between voice, data and video. The Trust will need to evaluate the most appropriate way to manage this transition to determine the best fit for our existing solutions and ensure appropriate levels of resilience.

8.9.2 Location Based Services

Location based services covers the use of IT networks and software in conjunction with wireless positioning (either by GPS or by Wi-Fi network triangulation techniques) to identify the position of an asset. This positioning information can be used to locate people/equipment within the hospital environment and communicate this to anyone who might need it. Simple examples might be to locate the nearest member of staff to an event (cardiac arrest) and to alert them or to find an item of equipment in the hospital to prevent wasted time in searching departments.

The use of Wi-Fi to provide positioning information necessary requires a very high density of wireless access points to be installed. The current Trust wireless network would not support accurate positioning of devices; however in defined areas (A&E etc.) suitable network upgrades to allow the implementation of location based services may be possible.

This may for example provide the ability to know in real time whom is on duty, their location and be able to contact the appropriate clinician to discuss patient conditions

and results. The impact of such a solution would be particularly advantageous in managing emergency care flow where poor communications are directly impacting our ability to deliver timely care and meet national ED targets.

Modern and effective communications between clinicians, staff and patients is critical to the delivery of effective modern healthcare. A solution that enables effective and timely communication across care settings and sites is a key enabler for safe and efficient clinical care and enabling many of the transformation challenges that we face.

8.9.3 Patient/Public Wi-Fi

The Trust recognises that media and entertainment is a reflection of convergent technologies in the public domain. To reflect this trend the Trust is decommissioning bed side patient entertainment systems and in Q3 2014 will deploy a patient/public Wi-Fi solution which will support streaming of entertainment within the Trust on a technically and commercially viable solution.

8.9.4 Mobile Devices

Mobile devices such as Smartphones and other handheld devices are now in common use within society and within the Trust. The Trust already uses the smart phones as part of our Telephony solution and is actively deploying mobile devices as part of the maternity solution, patient experience and clinical observations projects. There are increasing demands to use mobile devices within the Trust, however this represents a number of challenges to the organisation in terms of licensing, information security and information governance. In addition a number of core Trust applications are not optimised for use with mobile devices. As part of the development of the HIS strategy and the development of agile working, the Trust has established a mobile device working group and has a planned migration to an enterprise wide licensing agreement which is explored further in section 8.9.5.

8.9.5 Licensing: Moving to an enterprise agreement

Historically the Trust has licensed on a device client access licence (CAL) basis. As the number of devices has now reached the point whereby the number of devices exceeds the number of users the Trust is now preparing to enter into an enterprise agreement.

8.9.6 Bring Your Own Device Policy

Bring your own device (BYOD) is a business policy of employees bringing personally owned mobile devices to their place of work and using those devices to access privileged Trust resources such as email, file servers and databases as well as their

personal applications and data. This is an increasing trend and offers a number of advantages and disadvantages to the Trust. If left unmanaged the Trust runs the risk of data breaches and risks to information governance and security. In addition licensing and developing and enforcing policies on acceptable use and behaviour offer a number of challenges.

However there is a positive aspect, which sees users change their behaviour and there is a benefit to the organisation in that high-priced devices that the Trust would normally be required to purchase for employees are purchased by employees who then have control on the type of technology that they wish to use. Employees may take better care of devices that they view as their own property. This allows the Trust to take advantage of newer technology faster.

As part of the Trust's evaluation of mobile devices the Trust will also evaluate BYOD policies.

8.10 Unified Communications and location Based Services

There is increasing evidence regarding the benefits of telehealth and telemedicine with in secondary care. In an era of financial challenge, telehealth – technology designed to help people with long-term conditions maintain their independence and avoid unnecessary hospitalisation. A number of trials funded by the DH suggest that telehealth has helped patients to avoid the need for emergency hospital care, however the mechanism[12] for this is not yet clear. Telehealth could help patients manage their conditions better and therefore reduce the incidence of acute exacerbations that need emergency admissions. Telehealth could also change people's perception of when they need to seek additional support, as well as professionals' decisions about whether to refer or admit patients.

The development and delivery telehealth and telemedicine will a vital component of services delivery in our local community network and are enabled by the delivery of a robust and flexible infrastructure. Whilst this is clearly an enabler of clinical practice it is reflected in the infrastructure section because of the dependency on technology. The design and deployment of the infrastructure has been architected with the objective of providing services to clinicians support telehealth. The Trust is already

[12] Effect of telehealth on use of secondary care and mortality: findings from the Whole System Demonstrator cluster randomised trial, BMJ, June 2012

operating pilots using video conferencing and Skype to support patients with long term conditions.

8.11 Patient Access to their Electronic Medical Record

The Trust is committed to provide patient portal access patients medical records. Patient Portals are healthcare-related online applications that allow patients to interact and communicate with their healthcare providers within primary and secondary care. These services are available via the internet 24/7. There are some solutions that exist as stand-alone web sites and provide services to the NHS. Other portal applications are integrated into existing solutions. Currently, the lines between an the electronic medical record, personal health record and a patient portal are becoming increasingly blurred however the Trust is committed to providing this functionality and it is a core requirement within the Trust's High Level Summary Specification.

The Trust is mindful of the challenges of consent and also the development of YCC and how this will support access to the patient record. Again, as in section 8.10, this requirement is dependent upon a flexible and robust infrastructure and it is referenced in section

9 Delivering integrated care: Corporate Functions

By virtue of the Trusts core business, this strategy focuses on the delivery of clinical and patient services; however it is vital that to recognise that the delivery of high quality clinical care is also dependent upon the delivery of sustainable and high quality corporate functions. Key deliverables in this area relate to Electronic Staff Record, NHSMail 2 and a myriad of other corporate functions:

9.1 Finance, Payroll and Procurement

The Trust currently uses a number of systems for our finance, procurement and HR functions. A number of these are stand-alone solutions and include Oracle financials and procurement, patient level information costing system (PLICS) and the national ESR system managed by McKesson within HR. The systems still require significant manual interventions and the Trust experiences significant difficulty in reconciling ESR and financial systems. The systems are unwieldy and do not provide management information to assist the Trust Executive Team in a timely manner. Forecasting is a time consuming and a problematic area resulting in significant staff time being deployed on a monthly basis, both within the corporate areas as well as the clinical groups.

The Trust requires a single central financial solution to support all aspects of resource planning across the areas described below. The key being that intelligence will be gathered such that strategic decision making can be supported and business processes streamlined with the end goal of reducing cost and increasing efficiency.

In the first instance the Trust must develop a revised strategy that optimises the solutions in place until the end of the contract period, provides solutions to plug the gaps and assists the Trust with the replacement of these business solutions which would include, but not exclusively, the following requirements:

9.1.1 Financial Management

The Trust has a blend of Oracle based financial solutions and internally developed solutions based upon Microsoft Access 98 and Excel. Support and maintenance of these solutions is done from within the finance department. There are a number of key challenges faced by the current configuration and they are:

1. Dependency on internally developed and maintained solutions for finance reporting and performance management
2. Integration between ESR, finance, procurement and payroll and the level of manual integration.

With this in mind the Trust will be undertaking a review of the solutions currently in operation with a view to the development of replacement and migration to a more integrated business suite.

9.1.2 Procurement Management

The Trust currently uses the Oracle based iPROC solution. There are no current issues reported however the Trust will review this.

9.2 Centrally funded Solutions

9.2.1 Workforce Electronic Staff Record

The Trust uses the NHS national solution ESR for workforce management. As the workforce solution for the NHS, ESR supports the delivery of national workforce policy and strategy by providing a range of tools that facilitate effective workforce management and planning; thereby enabling improved quality, efficiency and assurance of compliance against essential workforce standards.

In May 2011 the Department of Health announced its commitment to retain ESR as the central Workforce Solution for the NHS after August 2014. An ESR re-procurement project is now underway, being led by the Department of Health. The NHS ESR Central Team is committed to ensuring that users and stakeholders are kept informed as key decisions are made in relation to the re-procurement of ESR for the NHS and the Trust will monitor the re-procurement activity. At this point the Trust will retain ESR as the workforce solution.

The Trust uses the NHS national solution ESR for workforce management. As the workforce solution for the NHS, ESR supports the delivery of national workforce policy and strategy by providing a range of tools that facilitate effective workforce management and planning; thereby enabling improved quality, efficiency and assurance of compliance against essential workforce standards.

9.2.2 NHSMail

In May 2011 the Department of Health announced its commitment to retain ESR as the central Workforce Solution for the NHS after August 2014. An ESR re-procurement project is now underway, being led by the Department of Health. The NHS ESR Central Team is committed to ensuring that users and stakeholders are kept informed as key decisions are made in relation to the re-procurement of ESR for the NHS and the Trust will monitor the re-procurement activity. At this point the Trust plan to retain ESR as the workforce solution.

The current NHSMail service has been in place since 2009. With all of the recent developments in technology the Health and Social Care Information Centre consider that it is beneficial to update and replace the current service with a new one during the next few years, as part of the NHS's on-going commitment to improving service. The recommendation, supported by NHS England and the Department of Health, and

confirmed in the approved Outline Business Case is that NHSMail continues as a centrally-funded and managed service until at least June 2019. The scope of the recommendations for the replacement services are supported by NHS England and the Department of Health.

The Trust has signalled its intention to continue with the NHSMail service; however provision for a refresh of the service or to bring the services has been included in the Trust's LTFM for 2019/20.

9.2.3 SMS Text Messaging through NHSMail

The text messaging service via NHS Mail is being withdrawn in April 2015. As a result the Informatics Service is currently engaged in assessing the internal requirements for this service with a view to commissioning an SMS text messaging service. Analysis to date indicates the majority of SMS text messages are sent in relationship to agency and bank staff. This additional service provision will be reflected in the LTFM.

9.2.4 NHS eReferral

At the end of 2014 a new NHS e-Referral Service will be launched to replace the current choose and book service. It is being developed using feedback from patients and NHS professionals, and will use enhanced technology to deliver additional benefits. This new service a will support the Trust an improved patient experience and will be a core enabler for the YoOP programme.

9 Delivering integrated care: The Service

The Trust must have a robust Health Informatics Service which has both the capability and capacity to respond to both national and local changes and support the Trust achieving its strategic and business objectives. In addition the Trust faces a number of key decisions related to the overall vision for health informatics and core system replacements over the next 5 years. In order to support these changes a new organisational structure was approved by the Trust in July 2014 to meet these challenges.

The Trust has now appointed a substantive CIO and the following changes have been approved to meet the Informatics Delivery Challenge. As part of this reconfiguration of the service Information, Clinical Coding and Data Quality have been relocated to the Operations Directorate. Information Governance was relocated in an earlier reconfiguration to the Directorate of Risk and Governance.

The structure for the Informatics Service is detailed in Appendix B.

10 Delivering integrated care: Management

Delivery of the Informatics Strategy will initiate a number of programmes, which are enablers to the transformation of services within the Trust. This will require robust management and the use of industry best practice to ensure delivery and mitigate risk. The Strategy and Transformation Plan will place a significant demand upon the Trust and the service.

The Health Informatics Review developed in 2012 and subsequent Health Informatics Improvement Plan indicated that both the HIS and wider Trust needs to implement and ensure compliance with industry standard programme and project management methodologies. This will not only support the delivery of health informatics projects but also ensure that the Trust co-ordinates the direction and implementation of all projects and transformation activities that are dependent upon realising the benefits offered by the health informatics capability. It should be noted that these recommendations relate to the management and governance of the HIS projects. The Transformation Support Office (TSO) retains overall responsibility for the portfolio, programme and project management (PPM) capability within the Trust. In addition it provides a robust mechanism for handling the interface between businesses as usual (BAU) activities and programme and project delivery. To ensure that the Trust remains sighted on the importance of management and governance it is appropriate to reflect this in the Health Informatics Strategy, and sets the expectations of the standards and processes required.

10.2 Portfolio Management

The delivery of the Health Informatics Strategy will require a management of the programme and project delivery environment, the business as usual environment and the change in the operational environment. Portfolio management is increasingly being applied to organisations and corporate functions which are undertaking large-scales corporate change. The portfolio management function is "*increasingly becoming established as the interface between organizational ownership and the delivery of that change"* [13]

The HIS operates in a complex environment. Given the scope of proposed changes within the HIS, the need to co-ordinate the deliverables within the Improvement Plan, maintain the business as usual functions of the HIS and support the IT enablement of the transformation plan; the Trust must ensure that the HIS operates a robust methodology and have the capability to advise senior stakeholders. It is therefore proposed that the HIS will adopt a portfolio management approach. This will ensure

[13] Page3, Managing Portfolios of Change, Chris Venning, TSO

that the HIS remains aligned to the corporate objectives and the corporate, strategic-level processes operated by the TSO. The HIS portfolio management approach, represented in figure 4, represents the complete picture of the Trust's commitment of programme and project resources and investments to deliver its strategic objectives.

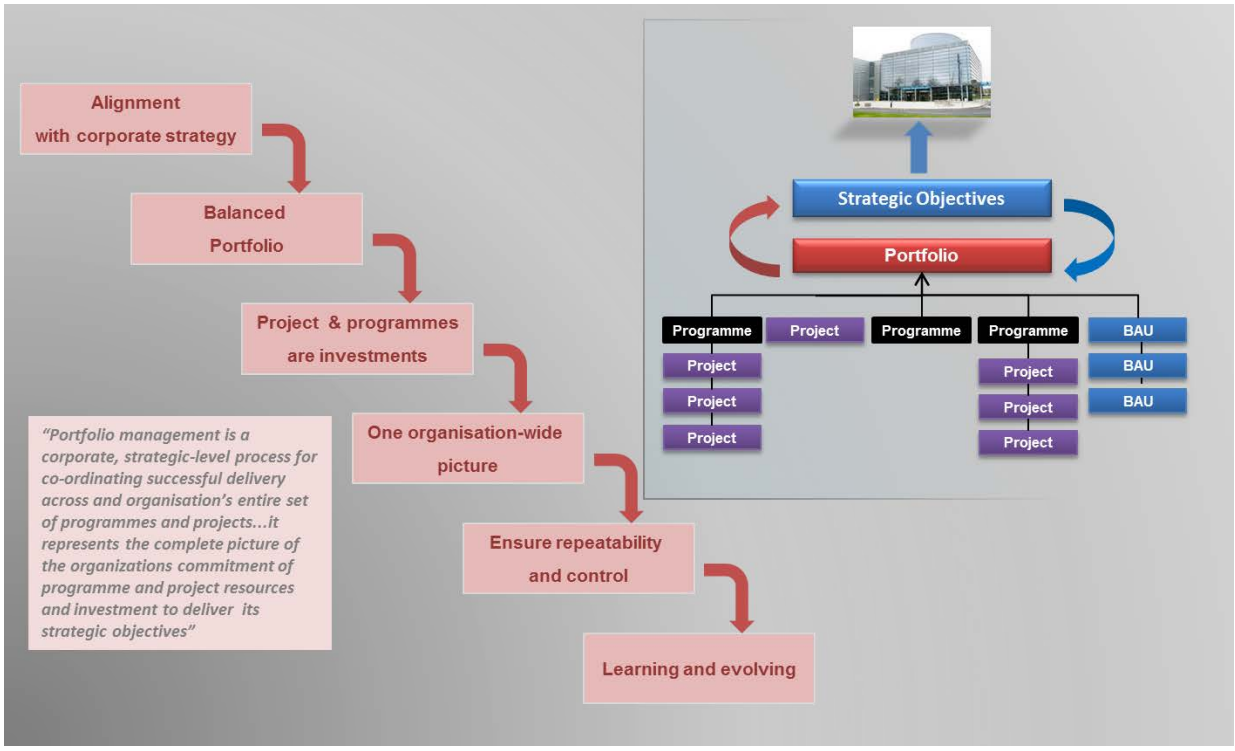


Figure 6 Portfolio Management

It should be noted that there is a clear distinction between **managing the portfolio** and **managing the programmes and projects** within the portfolio. Portfolio Management is an on-going business as usual function, like any corporate function, it is a permanent activity of the Trust. Programmes and projects are temporary activities, managed in line with best practice.

The objective of recommending a portfolio approach to the management of the HI Strategy is to ensure that the there is an integrated process which links the Trust's strategic objectives with the delivery objectives of the HIS and effectively manages the interfaces between BAU and programme and project delivery.

10.3 Programme and Project Management

Implementing complex health informatics systems, such as a replacement of the electronic patient record and the replacement of operational systems, represent

significant investment on the part of the Trust. As referenced in 3.1, the implementation of replacement systems has to occur in parallel to the delivery of services and patient care, with disruption to the operational and clinical environment kept to the minimum and risks proactively managed. The HIS portfolio will establish a structure for selecting the right projects and programmes and assessing whether those requirements can be accommodated within the existing organisational capability and capacity. However the programmes and projects must be managed by unified standards, governance, frameworks and control. With this in mind the Trust will adopt a formal programme and project management approach for all major HI and associated change programmes. The de-facto standards and methodologies for programme and project management are the OGC **Managing Successful Programmes™** and the **PRINCE2™** project management methodology.

10.4 Benefits Management

The Trust will adopt a structured approach to benefits management, which will be managed by the TSO. The Trust users in the clinical and operational environments will be responsible for taking advantage of the new capability delivered by the Health Informatics Service and the identification and realisation of the benefits.

10.5 Service Management

The delivery of the HI Strategy will place demands on the customer service. To ensure optimised customer service the Trust will implement the **ITIL™** Service Management Framework. The objective of the **ITIL™** service management framework is to provide end users with services that are fit for purpose, stable and reliable so the Trust recognises the HIS as a trusted provider.

Our objective is to deliver a business led service that is not driven by technical silos but by the needs of the organisation as a whole. To achieve this objective the Trust will develop an IT service catalogue and associated service level agreements against which performance can be monitored and reported. Service levels will be aligned with the business to ensure that the service meets the needs of the Trust IT users in a reliable and consistent fashion.

We will agree a set of Key Performance Indicators (KPI's) which will be developed to measure the service provided these will include :-

I. Customer satisfaction ratings
II. Average time to resolve SLA requests
III. Percentage of calls meeting SLA
IV. Percentage of calls exceeding SLA
V. Exception reporting
VI. Percentage of HIS staff ITIL-aware

VII. Percentage of HIS staff ITIL certified

11 Delivering integrated care: Governance

The Trust is, dependent upon the delivery of the informatics strategy and a high quality service. The availability and accessibility of high quality information and services to ensure that the Trust meets its corporate objectives and achieves the economies and efficiencies that is required. Given the scope and duration for delivery of the informatics strategy within the Trust it is proposed that the existing governance detailed below be used to oversee the delivery of the strategy. This structure is detailed below:

11.2 Health Informatics Committee: Sub Committee of CLE

The Health Informatics Committee effectively oversees all informatics activity within the Trust. It contains the investment decision makers and is chaired by the Senior Responsible Officer (SRO) for the Informatics Portfolio. The Informatics Committee is accountable to the Clinical Leadership Executive and is accountable for the success of the Health Informatics programmes, provides top level endorsement of rationale and objectives of the programme and prioritises resources. The Informatics Committee is the ultimate arbitrator for priority and resource contention issues.

11.3 Work stream Programme Boards

All projects will have a dedicated project board. Projects that do not require dedicated project boards will be decided on a case by case basis.

11.4 Health Informatics Programme Office

Health Informatics programme office function will provide the information hub for the HIS, and act as a single point of truth for the Trust. The programme support office will provide the following functions:

1. Tracking and reporting functions
2. Information Management
3. Financial accounting
4. Risk and issue monitoring
5. Quality and change control

12 Delivering integrated care: The Risks

Key risks, associated with the HIS strategy have been identified. Detailed risk and issues registers will be maintained within each project work stream.

No	Risk	Probability 1-Rare 2- Unlikely 3 – Possible 4 – Likely 5- Almost Certain	Severity 1 – Insignificant 2 – Minor 3 – Moderate 4 – Major 5 - Catastrophic	Mitigation
1	Sufficient project funds cannot be secured leading to delayed or abandoned projects.	3	4	Agree funding through this strategy. Agree external funding with PCT, SHA, CCG and DH Prepare contingency plans for funding shortfalls.
2	Project run late or over-budget, Delaying delivery of benefits.	2	4	Use 'best practice' project management methods (PRINCE 2). Adopt a development methodology to ensure projects and developments are managed in a quality controlled and consistent manner.
3	Projects completed, but Benefits not fully realised.	3	3	Appoint Business Change managers from Operations to support the Trust take advantage of the new capability. Prepare and monitor Benefits Realisation plans for all major projects.
4	Loss of efficiencies and disruption to organisation arising from unreliable systems	3	4	Implement 'best practice' support structures (based on ITIL). Create highly resilient Data Centre. Strengthen Disaster Recovery capabilities as part of corporate Business Continuity plan.
5	Failure to attract and retain high quality staff leads to project failures and unreliable systems.	3	4	Develop HIS managers with a strong focus on leadership and people management skills. Ensure effective communications with all HIS staff. Develop succession plans.

No	Risk	Probability 1-Rare 2- Unlikely 3 – Possible 4 – Likely 5- Almost Certain	Severity 1 – Insignificant 2 – Minor 3 – Moderate 4 – Major 5 - Catastrophic	Mitigation
6	Failure to identify project risks.	3	3	Ensure PRINCE 2 methodology is followed.
7	HIS are not involved earlier enough in hospital projects.	3	4	Continually educate or reinforce that the business MUST involve HIS at the outset.
8	Trust fails to change its organisational behaviour and working practices to take advantage of the new capability	3	4	Appoint Business Change managers from Operations to support the Trust take advantage of the new capability.

13 Delivering integrated care: Funding

Provision of a detailed cost model for the Informatics Strategy is reflected in the Trust's long term financial model (LTFM). Within the current economic climate this is reviewed on an annual basis as part of the capital planning process. Funding for the health informatics function in recent years has been from 3 main sources and it is envisaged that this will remain the main source of funding for delivery of the informatics strategy. Those sources of funding are as follows:

Capital Programme: The Trust has committed £45,000,000 of operating capital until 2019/2020 for the delivery of the Informatics Strategy. Funding for the projects identified in this strategy are subject to investment approval process (IAP) and agreement by the Trust's Capital Programme. It is anticipated that the LTFM and capital programme will be used to deliver the informatics strategy and that his capital allocation will sustain the Trust's informatics needs however it should be noted that both the LTFM and capital programme are subject to annual review.

Recurring funding: from the SWBH NHS Trust baseline HIS budget. This is subject to the normal Trust budget setting process, with provision being made for salary awards but any other increases in spending being subject to justification in competition with other requirements across the organisation. Each year there is the obligation to achieve an agreed percentage saving in line with the Trust wide Transformation Plan. Health informatics is a major enabler to the Transformation Plan and in line with the LTFM; HIS would be expected to support the Trust in achieving a 20% drop in expenditure over the next 5 years.

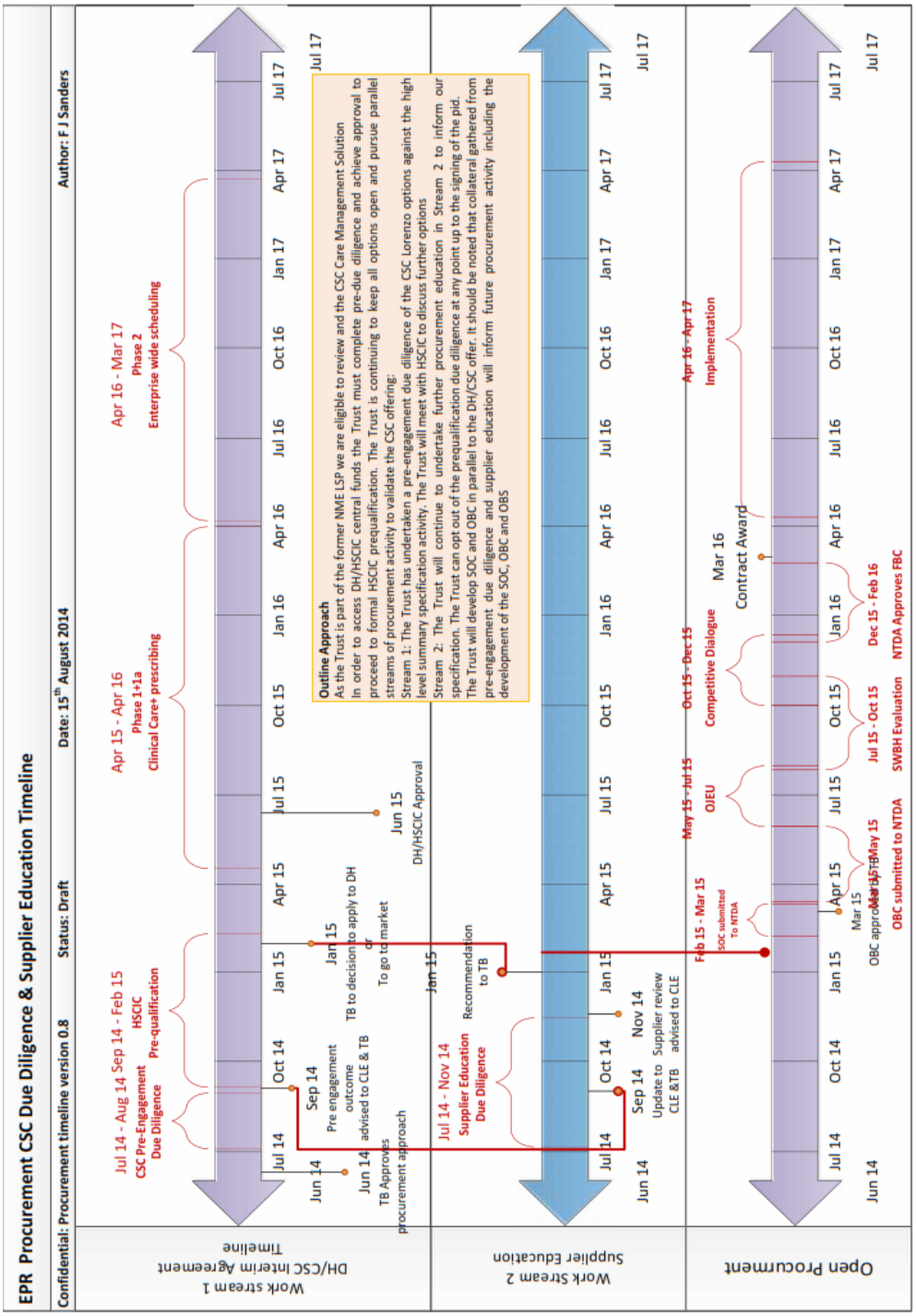
It should be noted that the systems replacement plan and the proposed transformation projects will have implications for future recurring costs. This will require proactive management and prioritisation of maintenance contracts but realistically this result in additional cost pressures within the HIS budget. As a result the HIS will make an annual bid for cost pressure support into the annual business planning process.

National Programme Funding: Formerly known as NPfIT, funding has been made available centrally for a number of core systems. The availability of funding following the cessation of the National Programme has yet to be confirmed.

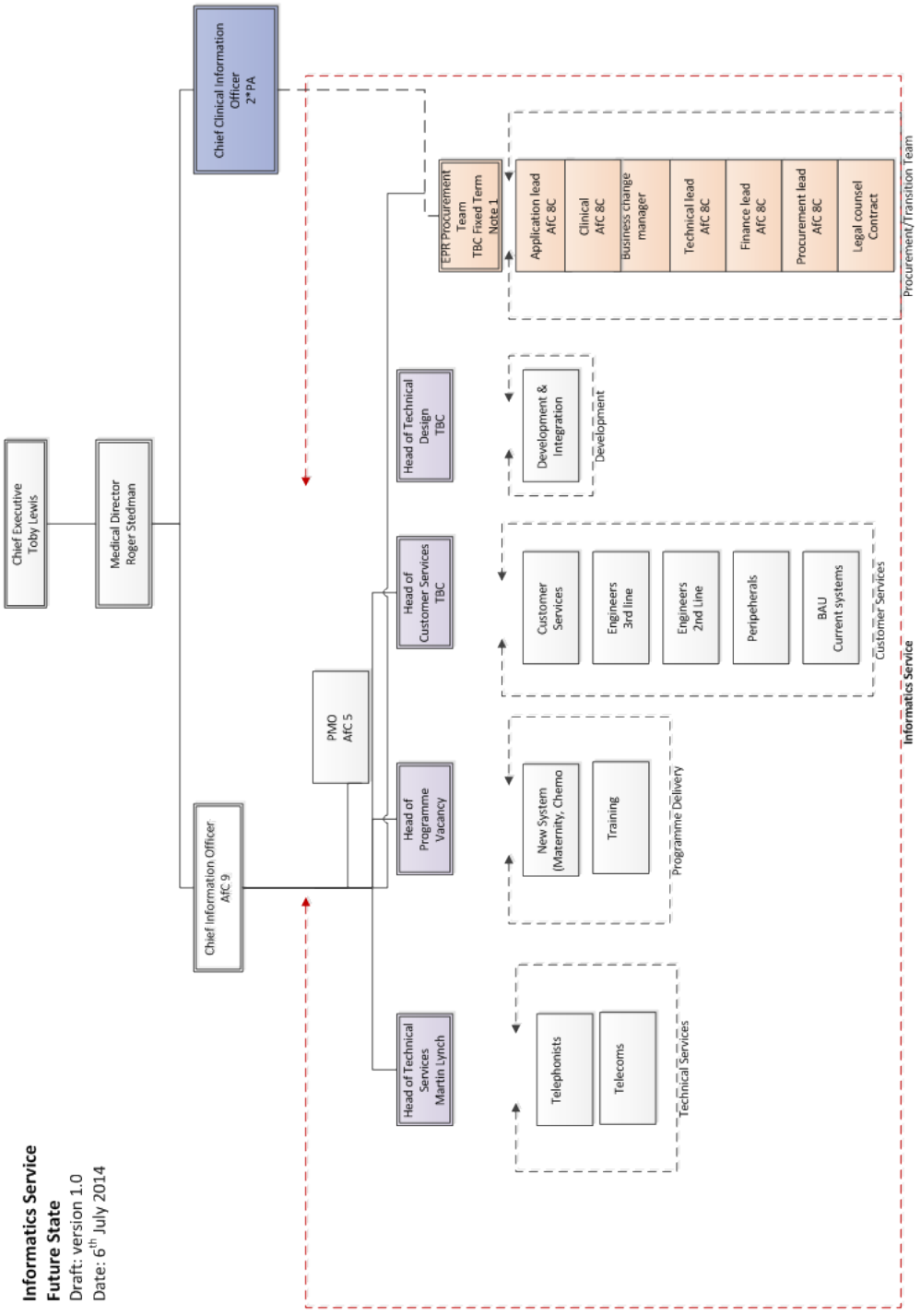
The Trust is aware that central funding for a number of core solutions, identified in this strategy will conclude in the life time of this strategy and therefore the Trust will continue to review central funding and apply for funding from NHS England Technology Funds where the solutions are aligned with this strategy.

Business Cases: Each of the identified work streams that are identified with this strategy are subject to procurement processes. Approval by the Health Informatics Committee and IAP and must be reflected the Trust's annual plan. These requirements will be identified as part of the Trust's annual integrated business plan.

Appendix A: Procurement Timeline



Appendix B: Informatics Service Organisation Structure



Feedback

Should you wish to submit observations or feedback, please use this form:

Section:

Submitted by:

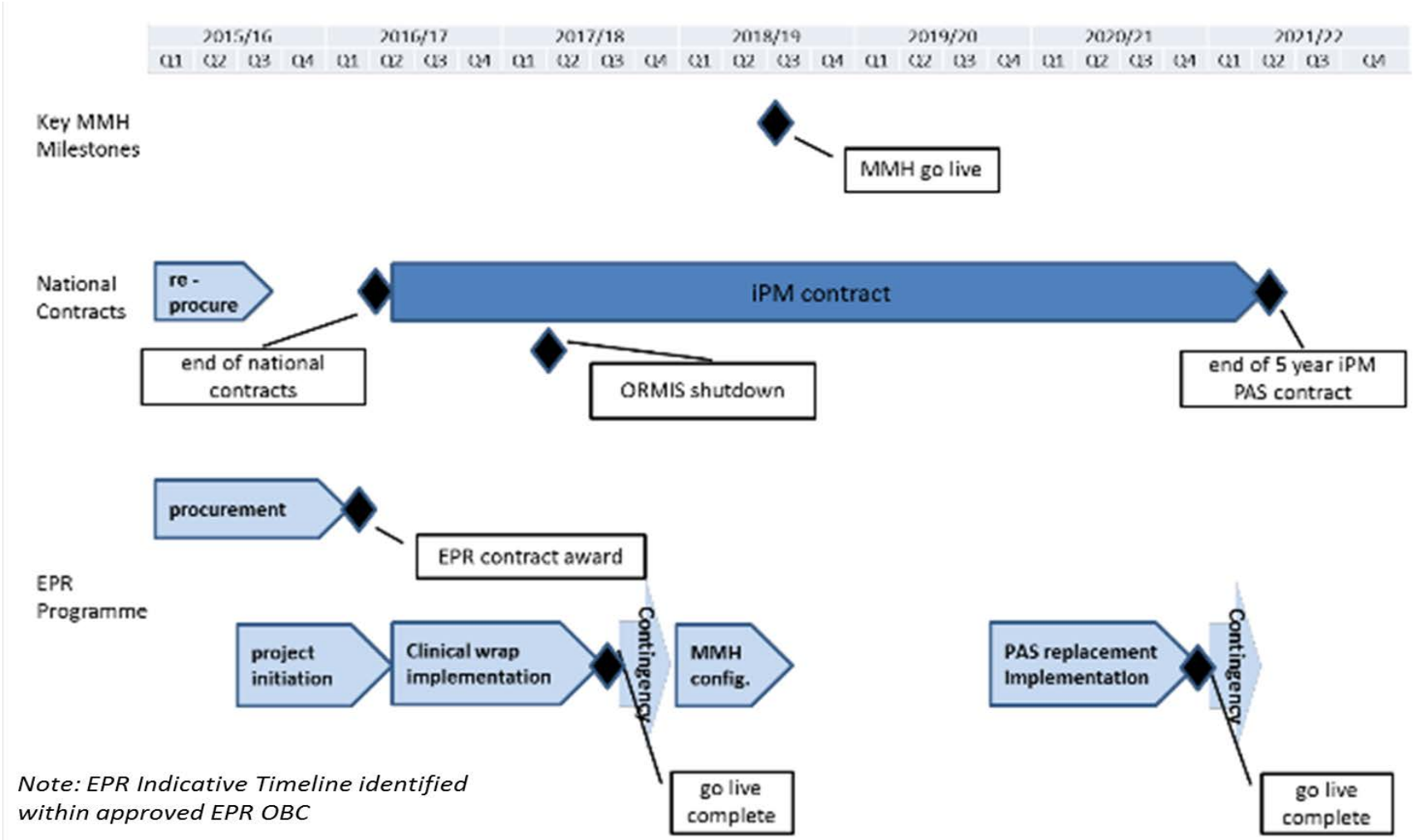
Please submit this form to the CIO by email: Alison.dailly1@nhs.net

Date :

Observation:

APPENDIX 10b – ELECTRONIC PATIENT RECORD PROCUREMENT TIMELINE

Informatics: EPR High Level Indicative Timeline



Note: EPR Indicative Timeline identified within approved EPR OBC

APPENDIX 10c – MANAGED EQUIPMENT SERVICE BUSINESS CASE

Sandwell and West Birmingham Hospitals NHS
NHS Trust

MIDLAND METROPOLITAN HOSPITAL

MANAGED EQUIPMENT SERVICE (MES)

OUTLINE BUSINESS CASE

Version 3.4: Revised Submission Draft
12th December 2014

DOCUMENT VERSION CONTROL

VERSION	DATE	COMMENTS
1.0	16th July 2014	Shell Outline Business Case created by Provex Consultancy Ltd for Project Team
1.1	25th July 2014	Populated with initial data provided by Trust
1.2	7th August 2014	Updated further by Provex after internal review and further information provided by Trust
2.0	19th September 2014	Updated by Provex to include Economic and Financial sections
2.1	30th September 2014	Further updates following Project Team review on 24th October 2014. Version for review with Director of Finance and Performance Management
2.2	7th October 2014	Finalised to reflect discussions with Director of Finance and Performance Management
3.0	23rd October 2014	Updated equipment scope and related financials, to reflect the detailed equipment lists within the tender documentation, and consistent with the MMH plans
3.1	31st October 2014	Final Trust Board submission version
3.2	2nd December 2014	Draft revised submission version following discussions with TDA
3.3	3rd December 2014	Revised Submission version following review with Trust
3.4	12th December 2014	Additional revisions following further discussions with TDA

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1.1. INTRODUCTION

The Outline Business Case (OBC) and related Long Term Financial Model (LTFM) that were approved by the Department of Health for the launch of the Midland Metropolitan Hospital (MMH) project contain an assumption that the Trust enters into a Managed Equipment Service (MES) contract for a significant proportion of the large medical equipment needed to commission MMH. A further assumption is that the standalone imaging facility required to support the Birmingham Treatment Centre (BTC) once the main City Hospital imaging department is closed will be provided through a separate contractual arrangement.

This OBC has therefore been prepared to meet the requirement to fully appraise the options available to the Trust in relation to the equipping requirements for the future.

1.2. STRATEGIC CASE

Detailed consideration has been given to define the range of equipment and related services to be included within an MES contract, leading to the following conclusion:

- The equipment that will fall into the scope of the MES will be mainly large, high value imaging/diagnostic equipment;
- The need for CT and MRI within the Birmingham Treatment Centre will be the subject of a separate contractual arrangement, possibly similar to that already in place for MRI at Sandwell General Hospital;
- The Trust would prefer a provider who offered the facility to supply and maintain equipment from any manufacturer;
- Servicing, maintenance and repair will be required under the MES contract;
- There is potential to 'sell/transfer' current equipment to the MES provider and the MES provider would be involved in the decisions surrounding transfer and/or purchase of new equipment for MHH as well as the commissioning;
- It is not intended to consider the inclusion of the following items of equipment, as there are no perceived benefits from such inclusions:
  - Smaller items of medical equipment;
  - Furniture and furnishings.

The overall estimated value of equipment to be included within the MES is £17,959,000 (including VAT). This is at a higher level than originally envisaged within the MMH OBC, as it includes the majority of the major medical equipment needs of the services remaining at the BTC and Sandwell sites.

1.3. ECONOMIC CASE

In order to test whether a Managed Equipment Service is likely to represent the best Value for Money (VfM) to the Trust, an economic appraisal has been undertaken in line with the requirements of DH Business Case Guidance and the HM Treasury Green Book. This assessment is based on a comparison of the proposed MES with a Public Sector Comparator (PSC) under which the Trust would purchase, lifecycle and maintain Imaging equipment.

The analysis has been undertaken examining either a 10 year or 15 year contract term, as it is intended to seek proposals from potential suppliers on that basis.

The economic analysis suggests that an MES solution would represent better VfM than the PSC, as follows:

Table 1: Economic Analysis – 10 and 15 Year Contract Term

Economic Costs	10 year Contract		15 year Contract	
	PSC £000's	MES £000's	PSC £000's	MES £000's
Base Impact excluding Risk				
Net Present Cost (NPC)	30,277	30,087	40,569	42,358
Equivalent Annual Cost (EAC)	3,027	3,008	3,098	3,235
Economic Ranking	2	1	3	4
Impact of Risk				
Net Present Cost (NPC)	1,668	50	2,801	82
Equivalent Annual Cost (EAC)	156	5	205	6
Economic Ranking	3	1	4	2
Economic Impact including Risk				
Net Present Cost (NPC)	31,945	30,137	43,369	42,440
Equivalent Annual Cost (EAC)	3,184	3,013	3,303	3,241
Economic Ranking	2	1	4	3
Marginal EAC over preferred	171		290	228

The non-financial appraisal of options (comparing the MES and PSC) also demonstrated that the MES solution was preferred by a margin of some 8%.

From the above table it can be seen that the "10 year" MES contract appears to offer potentially better value than the "15 year" alternative. The "10 year" MES contract is therefore the Preferred Option.

Having said this, the analysis also shows that the results are highly sensitive to the residual value of the equipment at the end of the contract term. Selection of the most appropriate contract term will therefore rest on the judgements by potential suppliers on the specific life-cycle requirements of the equipment, and hence can only be undertaken once detailed proposals have been received from Bidders and a Preferred Supplier has been identified (i.e. at Full Business Case (FBC) stage).

On the basis profiled, the overall payment to the MES supplier would be £29.0m for a 10 year contract. The ultimate length of contract will be selected based on analysis of the proposals from

Bidders to ensure best value is obtained, and the Trust will therefore confirm the best value term and contract value at FBC stage.

1.4. COMMERCIAL AND MANAGEMENT CASE

The Trust is already undertaking the procurement of a new Cath Lab, given the urgent need for new equipment to meet existing Trust requirements in advance of MMH. This process is therefore being used to pilot the procurement of the more comprehensive coverage within the overall MES envisaged within this OBC.

A detailed plan has been prepared for the MES procurement under EU regulations, with the following key stages and dates:

Table 2: Proposed Project Timeframes

Dates	Days	Stage	Process
12-Aug-14	35	1	Define Requirements
06-Nov-14			Trust Board approval of OBC
15-Dec-14			TDA approval of OBC
16-Dec-14	35	2	Issue ITT
20-Jan-15	42	3	Evaluation of Bids
19-Mar-15	10	4	Award recommendation Report
07-Apr-15	35	5	Contractual meetings and Finalisation
07-May-15			FBC approved by Trust Board
Jun-15			FBC approved by TDA
30-Jun-15			Contract Award
01-Apr-16			

This timetable will enable dialogue with the MMH Bidders during the Draft Final Bids stage of that project.

1.5. FINANCIAL CASE

The forecast revenue cost impact of the MES in comparison to the existing (2014/15) budget provision is shown below:

Table 3: MES V PSC Affordability

Cost	Current £000's	Full Year PSC £000's	Full Year MES £000's
Maintenance Staffing	84	84	84
Maintenance Contracts	830	1,347	0
Non-Pay & Consumables	282	327	327
MES Contract	0	0	3,557
Capital Charges	1,800	2,550	0
Total Revenue Cost	2,996	4,308	3,968

In terms of revenue cost impact, this indicates that an MES solution:

- Would be potentially more affordable than the PSC by a significant margin of £340,000; but
- Represent an increase of £972,000 against baseline budget provision (excluding the provision retained separately for the costs of CT and MRI at the BTC, for which a separate OBC will be brought forward in due course).

The impact of the proposed procurement on the Trust's liquidity position has been assessed. In comparison to the forecasts included in the MMH OBC, this shows the following net impact:

Table 4: Impact of MES on Trust Liquidity

Cost	2014/15 £000's	2015/16 £000's	2016/17 £000's	2017/18 £000's	2018/19 £000's
Operating Activities	(11)	(456)	(748)	(1,127)	(749)
Investing Activities	80	635	750	528	1,015
Financing	2	22	43	54	77
Total	71	200	45	(545)	343
Cumulative Impact	71	272	317	(228)	115

Over the 5 year period to the end of 2018/19 this shows a modest improvement (£115,000) in the Trust's liquidity compared to the forecasts made within the MMH OBC. This arises from the reduction in cash outflows for equipment purchases forecast within the MMH OBC exceeding the additional cash outflow arising from the MES contract.

Over the full 10 year period of the LTFM (i.e. to 2023/24) there is a relatively modest £1,004,000 reduction in the Trust's liquidity, but this does not impact on the Trust's Liquidity Rating or Capital Servicing Capacity.

Within this analysis it has been assumed that the MES will result in the assets included within the contract being "off balance sheet". There remains a risk, however, that once the final contractual details are available that it may be necessary to account for the transaction as "on balance sheet" in accordance with IAS17 and IFRIC4. If that is ultimately the case, there will be an adverse effect on both Liquidity and the Trust's Capital Servicing Capacity.

Detailed analysis of the potential "on Balance Sheet" impact of this OBC on the Trust's Liquidity and Capital Servicing Capacity has been undertaken, and this shows that:

- In comparison to the latest (Summer 2014) Integrated Business Plan, the MES does not change either rating;
- Compared to the MMH OBC, the Capital Servicing Capacity rating is unchanged, but the Liquidity rating would fall from a 3 to a 2 in 2019/20 only.

If the Trust's risk rating was adversely affected solely as a result of an "on balance sheet" treatment for the MES, and financial performance was otherwise sound, the appropriateness of a 2* risk rating would be explored with the TDA and Monitor to mitigate this issue.

It has been further assumed that VAT will be recoverable under NHS Contracted Out Services (COS) regulations. This assumption is consistent with the experience of other similar MES contracts, but will require confirmation with the Trust's External Auditors and HMRC in due course.

1.6. CONCLUSION AND RECOMMENDATIONS

This Outline Business Case has set out the case for establishing a new Managed Equipment Service Contract for the Trust's major medical equipment needs for the future. It is affordable within the financial forecasts made for the Midland Metropolitan Hospital, and offers the following significant benefits:

- The availability of high quality and up-to-date equipment, appropriate for the delivery of Trust services for the duration of the contract;
- Reduced calls on the Trust's available Capital Resource Limit and Cash;
- Clear and simplified responsibilities for the management of major medical equipment services;
- Ease of implementation and transfer of equipment to MMH.

The Trust Board is recommended to approve the OBC to enable the formal procurement process to commence with a view to entering into an MES contract. The term is proposed as ten years but the fifteen year option will be tested during procurement. The start date of the contract is expected to be 1st April 2016.

2. INTRODUCTION AND BACKGROUND

The Outline Business Case (OBC) and related Long Term Financial Model (LTFM) that were approved by the Department of Health for the launch of the Midland Metropolitan Hospital (MMH) project contain an assumption that the Trust enters into a Managed Equipment Service (MES) contract for a significant proportion of the large medical equipment needed to commission MMH. A further assumption is that the standalone imaging facility required to support the Birmingham Treatment Centre (BTC) once the main City Hospital imaging department is closed will be provided through a separate contractual arrangement.

A separate OBC is therefore required for such an MES contract, and the MMH & Reconfiguration Committee overseeing the MMH project approved the establishment of a Project Team to undertake the work necessary to prepare the OBC and the related aspects in readiness for procurement of an MES contract.

The objective set out for the Project is to develop and gain approval for an Outline Business Case for an MES Contract, in accordance with Department of Health and HM Treasury Guidance for such cases and to develop a Procurement Plan for an MES, and undertake the necessary procurement in accordance with Trust Standing Orders and EU Procurement rules.

This OBC sets out the background to the requirement, and the detailed analysis of options available to the Trust. It considers the financial and economic analysis and sets out the recommended way forward to establish an MES Contract for the future, with a contract term of between 10 and 15 years with effect from 1st April 2016.

3. STRATEGIC CASE

3.1. THE TRUST

The Trust currently provides acute, specialist and community services from two teaching hospitals and a range of community facilities. It is an ambitious and high performing organisation with a proven track record of achieving financial, performance and quality targets. Table 5 below outlines key facts about the Trust.

Table 5: The Trust: Key Facts

Population served	530,000
Annual turnover	£439 million (2013/14)
Number of sites	Two acute sites and three main community locations
Current CQC Rating	Intelligent Monitoring Level 4 (inspection pending 2014/15)
Current TDA Rating	Level 2 (top 25% of acute care providers in the sector)

Acute and specialist services are provided from City Hospital in Birmingham and Sandwell General Hospital in West Bromwich. Emergency care, including A&E services is provided at both sites. In addition, the Trust provides comprehensive community services to over 300,000 people in the Sandwell area from more than 150 locations, including Rowley Regis Community Hospital.

The Trust provides services for three main Clinical Commissioning Groups (CCGs):

- NHS Sandwell and West Birmingham CCG (accounts for circa 75% of Trust activity);
- NHS Cross City CCG (accounts for circa 13% of Trust activity); and
- NHS Birmingham South and Central CCG (accounts for circa 5% of Trust activity).

Sandwell and West Birmingham Clinical Commissioning Group (SWB CCG) is responsible for a population of 530,000, largely drawn from the Sandwell and Heart of Birmingham geographical areas. A key benefit of the new commissioning arrangements for the Trust is that their configuration has been organised around the catchment population the Trust serves. This is maintained in the proposed Unit of Planning arrangements across Sandwell, Solihull and Birmingham.

3.2. MIDLAND METROPOLITAN HOSPITAL

HM Treasury approval to the Outline Business Case for the development of a new acute hospital in the Grove Lane area of Smethwick to replace the current Sandwell General and City Hospitals was received on 10th July 2014. The Midland Metropolitan Hospital will be procured through the new PF2 route and will be developed as part of the wider changes to health and social care being undertaken by the Right Care, Right Here (RCRH) Programme.

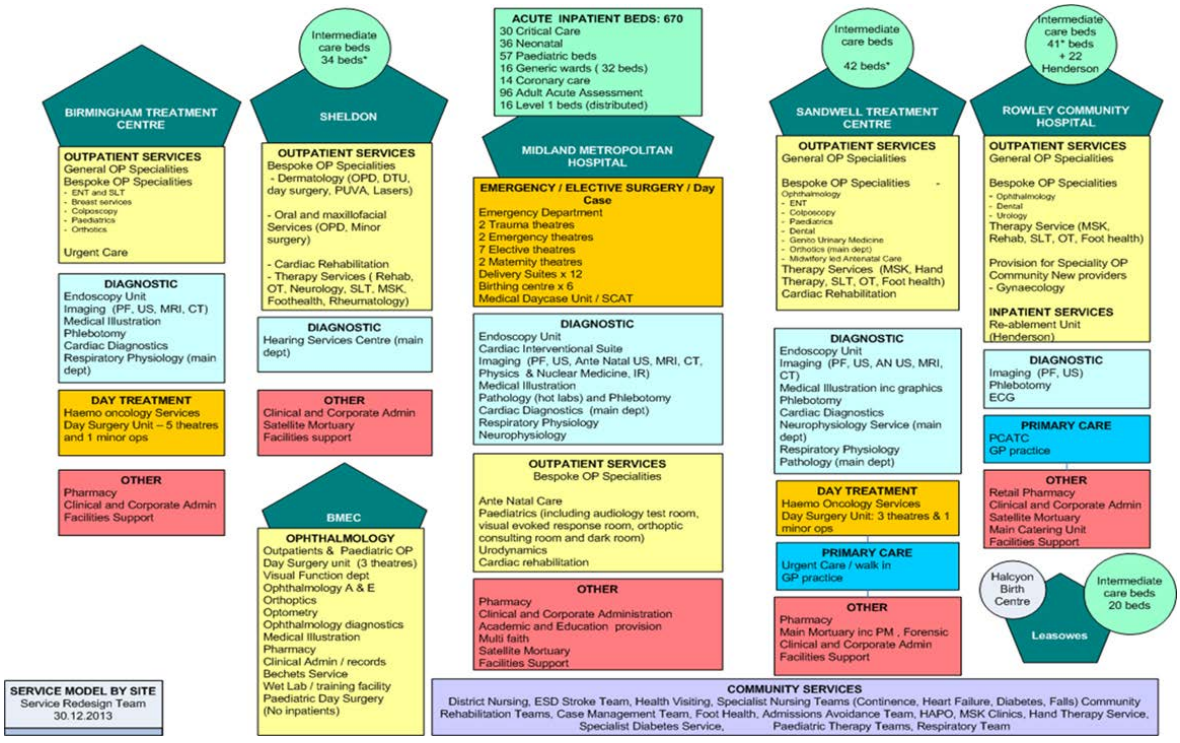
3.3. TRUST SERVICES

The new hospital will provide modern purpose built facilities in which to deliver acute care. As a single site acute hospital it will allow consolidation of acute emergency and inpatient services with a critical mass of patients, staff and equipment. This will enable delivery of:

- High quality care 24/7 and 365 days per year;
- Continuity of care through multidisciplinary teams working to pathways and protocols agreed by expert led teams;
- Initial assessment and treatment of patients requiring emergency care by experienced clinicians with consultant presence on site 24/7 in the most acute specialties, and on-site 12 hours, 7 days a week for a number of others;
- Sub-specialty expertise across the entire range of specialties available to in-patients in a timely fashion;
- High-level diagnostic support, including imaging and pathology available 24/7;
- Separation of acute unplanned and elective patient flows with individuals responsible for elective care of patients not being simultaneously responsible for the delivery of emergency care;
- Leadership at the point of care delivery e.g. wards, departments and theatres provided by experienced clinicians with sufficient time to lead and supervise staff and standards.

A summary of where services will be provided in the new model of care is presented in Figure 1 below:

Figure 1: RCRH Facilities Model



3.4. MANAGED EQUIPMENT SERVICE

Consideration is required in relation to 4 aspects of an MES in order to determine the optimal solution for the Trust:

- What equipment types should be included;
- Which of the Trust's service locations should be covered;
- What services related to equipment should be included (e.g. consumables);
- When the contract should become operational.

It is likely that the equipment that will fall into the scope of the Managed Equipment Service will be mainly large, high value imaging/diagnostic equipment. The Trust would prefer a provider who offered the facility to supply and maintain equipment from any manufacturer.

Servicing, maintenance and repair will be required under the MES contract.

There is potential to 'sell/transfer' current equipment to the MES provider and the MES provider would be involved in the decisions surrounding transfer and/or purchase of new equipment for MHH as well as the commissioning.

A Managed Service Contract will generally be only viable if the Trust can demonstrate that the third party is providing a full service as opposed to it being a financing agreement. It is possible to include items such as staffing, consumables and management of third parties within a contract and these options need to be explored and evaluated for operational fit and value for money.

It is not intended to consider the inclusion of the following items of equipment, as there are no perceived benefits from such inclusions:

- Smaller items of medical equipment;
- Furniture and furnishings.

Other items of equipment may be excluded based on the Option ultimately chosen.

The MES Procurement Project must be undertaken to a timescale consistent with the overall MMH Programme. In order to ensure that the Preferred Bidder for the MES Contract is identified in time to allow discussions with the final two PF2 Bidders, this requires the Preferred Bidder for the MES Contract to be identified by March / April 2015.

The MES Procurement Project is dependent upon the overall MMH PF2 Procurement timescales.

3.5. LONG-LIST OF OPTIONS

In accordance with HM Treasury guidance, the starting point for option consideration is the "Do Nothing" Option. Doing nothing would mean that the Trust is not able to provide the equipment necessary to deliver the services proposed at the new Midland Metropolitan Hospital, and would not therefore meet the objectives of the MMH project.

The Project Team therefore examined the following matrix of Options for the delivery of equipment that could meet the overall project requirements:

Table 6: Range of Options

	MMH	BTC	Sandwell	Rowley
Equipment Types:				
CT	Yes	??	??	N/A
MRI	Yes	??	No – In-Health Contract	N/A
X-Ray	Yes	??	??	??
Gamma Camera	Yes	N/A	N/A	N/A
Cath. Lab	Yes	N/A	N/A	N/A
Breast Screening	??			
Imaging Ultrasound	??	??	??	??
Other Ultrasound	??	??	??	??
Services:				
Maintenance	Yes	Yes – if included	Yes – if included	Yes – if included
Repairs	Yes	Yes – if included	Yes – if included	Yes – if included
Lifecycle Replacement	Yes	Yes – if included	Yes – if included	Yes – if included
Consumables	??	??	??	??
Timing:				
MMH Opening	Yes	Yes – if included	Yes – if included	Yes – if included
Prior to MMH Opening	??	??	??	??

3.6. INITIAL APPRAISAL OF OPTIONS

3.6.1. CRITERIA FOR INITIAL APPRAISAL

The following criteria were considered in coming to a conclusion on the Option to be shortlisted:

- Ease of Operation;
- Ease of implementation;
- Transfer of existing Trust assets;
- Potential impact on competition between Framework suppliers;
- Impact on Trust Cash Position;
- Consistency with Commissioner Intentions.

3.6.2. INITIAL APPRAISAL PROCESS

The various alternative approaches for inclusion within the scope of an MES contract were discussed by the Project Team, and the advantages and disadvantages were considered against the above criteria, with a view to ensuring that the Option selected offered the optimal potential solution for the Trust, with the following conclusions:

- With the exception of the MRI at Sandwell General Hospital (which was currently provided on a contract service basis) and the requirement for MRI and CT at BTC (where a similar contractual arrangement is envisaged, and will be the subject of a separate Business Case), there were operational advantages in including all major imaging equipment that would remain on the existing sites;
- The inclusion of Imaging Ultrasound within the specification would also have operational advantages;
- Whilst non-imaging Ultrasound (e.g. maternity) is operated separately, there are also synergies with Imaging Ultrasound, as the equipment is provided and serviced as part of the overall Imaging service. Consequently these items will be included within the specification as well;
- Breast screening equipment should be excluded, as the commissioner intent in relation to the future of that service is unclear (it may be tendered), and the Trust would therefore not wish to be tied to procuring equipment for a service it may no longer be providing;
- There were no other items of equipment that would offer clear benefits to be included within the scope of the procurement;
- The inclusion of consumables (although relatively small) would ensure clear responsibilities between the Trust and potential suppliers;
- For MMH the service should be specified as operational from the opening of the facility, but as there will be some items of equipment that could be transferred from existing locations, the overall service should commence on existing sites before opening of MMH. It was agreed to model on the basis of an April 2016 operational date;
- It is noted that the Imaging Service at Sandwell includes a small provision at the Neptune Centre, and this is therefore included within the specification;
- Finally it was noted that responsibility for "room readiness" would remain with the Trust, given the different arrangements that will be in place on the various sites in relation to the physical facilities (PF2 at MMH; PFI and BTC; Trust owned at Sandwell and Rowley).

3.7. SHORTLISTED OPTION

Based on the appraisal undertaken, the following scope was agreed for inclusion within the Business Case.

Table 7: Shortlisted Option

	MMH	BTC	Sandwell (including Neptune Centre)	Rowley
Equipment Types:				

	MMH	BTC	Sandwell (including Neptune Centre)	Rowley
CT	Yes	No – Separate Contract	Yes	N/A
MRI	Yes	No – Separate Contract	No – In-Health Contract	N/A
X-Ray	Yes	Yes	Yes	Yes
Gamma Camera	Yes	N/A	N/A	N/A
Cath. Lab	Yes	N/A	N/A	N/A
Imaging Ultrasound	Yes	Yes	Yes	Yes
Other Ultrasound	Yes	Yes	Yes	Yes
Services:				
Maintenance	Yes	Yes	Yes	Yes
Repairs	Yes	Yes	Yes	Yes
Lifecycle Replacement	Yes	Yes	Yes	Yes
Consumables	Yes	Yes	Yes	Yes
Timing:	From opening	April 2016	April 2016	April 2016

It was also noted that in taking forward the procurement, sufficient flexibility would need to be included to adjust the precise scope once information was available from bidders as to the specific costs of the various components.

3.8. THE EQUIPMENT REQUIREMENT

A detailed exercise was undertaken to develop the list of equipment required for the future, and their related specifications. Details are included in ***Appendix 3A*** to this OBC, and this set of requirements forms the basis for the economic and financial analysis in Sections 4 and 6 below.

In comparison to the MMH OBC, this list of equipment includes the requirements of the services remaining on the BTC and Sandwell sites.

4. ECONOMIC CASE

In order to test whether a Managed Equipment Service is likely to represent the best Value for Money (VfM) to the Trust, an economic appraisal has been undertaken in line with the requirements of DH Business Case Guidance and the HM Treasury Green Book. This assessment is based on a comparison of the proposed MES with a Public Sector Comparator (PSC) under which the Trust would purchase, lifecycle and maintain Imaging equipment.

The analysis has been undertaken examining either a 10 year or 15 year contract term, as it is intended to seek proposals from potential suppliers on that basis, and the economic appraisal makes the following key assumptions:

- An appraisal period of 12 or 17 years, including 2014/15 as Year 0, and assuming a 10 or 15-year operational period from 1st April 2016;
- Discount rate of 3.5% applied to cash flows excluding VAT;
- PSC cost inputs as described in Section 4.1;
- Equipment lifecycle under the PSC assumes the asset lives set out in Section 4.1.1 below, which represents a 9.3 year average life and a residual value at the end of the appraisal period which reflects the proportion of remaining life outstanding at that point;
- MES cost inputs as assessed in Section 4.2 and profiled to reflect the anticipated replacement cycle of existing Trust equipment and the new equipment required for the MMH;
- Includes an assessment of the impact of risk retained by the Trust.

4.1. PUBLIC SECTOR COMPARATOR

The Public Sector Comparator is based on a detailed analysis undertaken to establish:

- The estimated capital cost of the medical equipment required for MMH and within remaining existing facilities in the future;
- An assessment of likely asset life to inform both the revenue impact of capital charges and economic impact of lifecycle costs;
- The existing revenue cost budget for medical equipment;
- An estimate of future revenue costs under a PSC;
- The Residual Value of equipment at the end of the appraisal period.

Details of the analysis are provided in the attached ***Appendix 4A*** but are summarised in the following tables and narrative.

4.1.1. CAPITAL COST OF IMAGING EQUIPMENT

Existing capital costs and an estimate of the capital cost for future requirements are shown in Table 8 below. Key points are:

- Current costs are based on historical book prices;
- Future costs for MMH are based on assessed costs for the 37 individual pieces of equipment identified, 34 of which are replacements for existing equipment (at replacement cost of £11.436m) and 3 of which are new within MMH ((£2.898m);

- Future costs for the 22 individual pieces of equipment retained within existing facilities are based on estimated replacement prices.

Table 8: Capital Cost of Equipment including VAT

Location	Current £000's	Future £000's
MMH	0	14,434
Existing	13,253	3,625
Total inc.VAT	13,253	17,959
Total exc.VAT	11,044	14,966

Within the MMH OBC, it was assumed that the requirements for the BTC and Sandwell sites would be met through the Trust's capital resources. As noted in Section 3.6 above, the work on this OBC has concluded, with the exception of the need for CT and MRI at the BTC, that there are operational advantages to including those equipment requirements within the MES. The latest forecasts of the level of capital cost also reflect the latest available data on equipment prices, and the most up to date specifications for the Trust's requirements.

4.1.2. PSC Revenue Costs

Baseline and forecast revenue costs in respect of Medical Equipment are shown in Table 9 below. Key assumptions made:

- No change in Maintenance Staffing Costs from the baseline;
- Future Maintenance costs at 7.5% of capital cost (at present the existing cost of Maintenance Contracts equates to approximately 6.3% of the historical cost of acquiring the equipment);
- Non-Pay and Consumables to rise in the proportion that "new" equipment (£2.898m) represents of the total requirement (£17.959m), equivalent to an increase of just over 16%;
- Future capital charges assume a 3.5% rate of return on capital, and the following asset lives as agreed with the Project Team, i.e. 7 years for Ultrasound equipment; 8 years for CTs; and 10 years for the remainder of the equipment.

Table 9: Medical Equipment Revenue Budget and PSC Forecast

Cost	Current £000's	Full Year Future £000's	Full Year Increase £000's
Maintenance Staffing	84	84	0
Maintenance Contracts	830	1,347	517
Non-Pay & Consumables	282	327	45
Total exc. Capital Charges	1,196	1,708	562
Capital Charges	1,800	2,550	750
Total Revenue Cost	2,996	4,308	1,312

This analysis confirms:

- A forecast full year annual revenue cost under the PSC of £4.308m;
- This represents an increase of £1.312m over the current budget provision.

It is also important to note that the above costs do not include for the current MRI contract with InHealth at Sandwell, or the costs relating to future provision of CT and MRI within the BTC, where a similar arrangement is being considered for the future. A separate Business Case will be brought forward for those pieces of equipment, in due course, and the appropriate financial provision has been retained within Trust plans outwith this OBC.

4.2. MES COST INPUTS

4 of the Bidders who attended the Bidder's Day on 8th August 2014 have now provided indicative costings for an MES service:

- Siemens;
- Asteral;
- GE;
- Philips.

The indicative prices quoted were all based on slightly different assumptions, but effectively reflected the price for a package of equipment using the prices provided by the Trust just in relation to MMH (i.e. excluding the equipment remaining on the existing sites, and priced at a value of £13,970,000).

As the actual requirement for which Tenders will be sought relates to the whole of the equipment list (i.e. MMH and the equipment remaining on existing sites), and the equipment list itself has been updated as specifications have been developed, it has been necessary to adjust the figures provided by the bidders to match the VAT exclusive estimate of the cost of acquiring the complete list of equipment (i.e. £14,966,000). In addition, given the varying level of detail provided further adjustments have been made for consistency where this is possible.

The adjusted VAT exclusive annual MES prices resulting from this analysis are as follows:

Table 10: Adjusted Indicative MES prices

Bidder	Per Annum £000's
Siemens	3,642
Asteral	3,372
GE	3,729
Philips	3,484
Average	3,557

This represents a fairly tight range of potential costs, and the average figure has been used to complete the baseline economic analysis.

4.3. ECONOMIC ANALYSIS OUTPUTS

The cost inputs described above have been modelled to establish, for both the PSC and MES options:

- The Net Present Cost (NPC) of the discounted annual cash flows over the 12 or 17-year appraisal period;
- The Equivalent Annual Cost (EAC) being an annualised equivalent of the NPC.

Details of the economic analysis are provided within ***Appendix 4A*** and are summarised in the table below:

Table 11: Economic Analysis – 10 and 15 Year Contract Term

Economic Costs	10 year Contract		15 year Contract	
	PSC £000's	MES £000's	PSC £000's	MES £000's
Base Impact excluding Risk				
Net Present Cost (NPC)	30,277	30,087	40,569	42,358
Equivalent Annual Cost (EAC)	3,027	3,008	3,098	3,235
Economic Ranking	2	1	3	4
Impact of Risk				
Net Present Cost (NPC)	1,668	50	2,801	82
Equivalent Annual Cost (EAC)	156	5	205	6
Economic Ranking	3	1	4	2
Economic Impact including Risk				
Net Present Cost (NPC)	31,945	30,137	43,369	42,440
Equivalent Annual Cost (EAC)	3,184	3,013	3,303	3,241
Economic Ranking	2	1	4	3
Marginal EAC over preferred	171		290	228

Based on the inputs and assumptions describe above, the economic analysis suggests that an MES solution would represent better VfM than the PSC. From the above it can also be seen that the "10 year" MES contract appears to offer potentially better value than the "15 year" alternative. The "10 year" MES contract is therefore the Preferred Option.

Having said this, the analysis also shows that the results are highly sensitive to the residual value of the equipment at the end of the contract term. Selection of the most appropriate contract term will therefore rest on the judgements by potential suppliers on the specific life-cycle requirements of the equipment, and hence can only be undertaken once detailed proposals have been received from Bidders and a Preferred Supplier has been identified (i.e. at Full Business Case stage).

Sensitivity analysis confirms that only relatively small changes to cost input assumptions would be necessary to switch economic preference in favour of the PSC:

- The indicative MES rental would only have to rise by £92,500 per annum (2.6%) under the 15 year contract scenario in order to trigger economic switch values;
- A small increase in the asset lives assumptions (the balance of equipment required in the future shows an average asset life of 9.3 years) incorporated within the PSC could trigger economic switch values.

On the basis profiled, the overall payment to the MES supplier would be £29.0m for a 10 year contract. The ultimate length of contract will be selected based on analysis of the proposals from Bidders to ensure best value is obtained.

4.4. NON-FINANCIAL APPRAISAL

The non-financial evaluation of the shortlisted options was undertaken using a systematic and sequential process that covered the selection of the criteria to be used to appraise the options; Weighting of criteria to reflect their relative importance; Consideration and scoring of the options against the criteria; and Analysis of the results and sensitivity testing to establish the robustness of the conclusions.

The evaluation criteria were agreed by the Project Team to reflect the benefits sought from the project:

- High quality equipment, appropriate for the delivery of Trust services, contributing to:
  - The Patient Experience;
  - Clinical Quality;
  - Teaching and Research.
- Management arrangements for service delivery;
- Ease of Implementation; and
- Ease of Equipment Transfer.

These criteria were weighted by the Project Team to reflect their relative importance as follows:

Table 12: Non-Financial Appraisal Criteria Weighting

	Weighting Rank	Weighting
High quality equipment, appropriate for the delivery of Trust services, contributing to:		%
The Patient Experience	1=	22.7%
Clinical Quality	1=	22.7%
Teaching and Research	6	9.1%
Management arrangements for service delivery	3	18.2%
Ease of Implementation	4=	13.6%
Ease of Equipment Transfer	4=	13.6%
Total		100.0%

The alternative options (i.e. the Public Sector Comparator (PSC) and a Managed Equipment Service) were scored on a scale of 1 – 10 (with 1 representing total non-compliance with a particular criteria and 10 representing absolute compliance). The overall results of this exercise can be summarised as follows:

Table 13: Non-Financial Appraisal Scores

	PSC	MES
Raw Score	50	54
Rank	2	1
Weighted Score	8.41	9.14
Rank	2	1

From this it can be seen that the MES solution is preferred from a non-financial viewpoint by some 8%. There are no realistic circumstances in which changes in the weights would affect this conclusion.

Appendix 4B provides details of the scoring and weighting.

4.5. CONCLUSION

On the basis of the economic and non-financial appraisals undertaken it is confirmed that a Managed Equipment Service represents Value for Money to the Trust for delivering its Imaging Equipment requirements.

5. COMMERCIAL CASE

5.1. PROCUREMENT PROCESS

The Trust is already undertaking the procurement of a new Cath Lab, given the urgent need for new equipment to meet existing Trust requirements in advance of MMH. This process is therefore being used to pilot the procurement of the more comprehensive coverage within the overall MES envisaged within this OBC.

In order that the MES project is delivered successfully, the following stages must be followed:

5.1.1. STAGE 1 PRE TENDER

This stage includes all the work that needs to be completed before the Tender document is issued, as follows:

- Agree approach and time frame;
- The Equipment List to be included within the ITT, including where relevant information on the existing equipment (age, location, etc.);
- Specifications for each piece of equipment;
- Information on the procedures to be undertaken and the volume of usage of the equipment;
- Details of the availability requirements for each piece of equipment (operating hours, “uptime” and response times required;
- The Technical questions to be addressed by bidders within their responses;
- The basis upon which evaluation of bids will take place;
- The detailed Contract and associated schedules to be included within the Tender.

5.1.2. STAGE 2 – ISSUE ITT

At stage 2 of the Procurement Process the tender is live. The ITT is issued electronically through bravo solutions. The key elements are:

- Bidders we require a site visit to look at existing equipment;
- Questions will be asked by all bidders at this stage, these will be passed on to the group for answers as and when required;
- Evaluation training will be given for each evaluator;
- Extensions to the timeframe may be requested and this will be discussed as and when required.

5.1.3. STAGE 3 – EVALUATION

5.1.3.1. PHASE 1

Each member of the evaluation team will be given access to the ‘tender portal’ to access the returned bids.

Bidders will be required if agreed to give a presentation on key elements of their bid to allow the final evaluation to take place.

On completion of the evaluation a moderation session will take place matching all scores per supplier per questions. This is to draw out any anomalies or missed documents. Once the moderation session has been held the financial scores are added to the technical scores to give an overall score for each bidder.

This completes the end of phase 1.

The top 2 scoring bids will be invited to Phase 2. The bidders in 3rd, 4th and 5th will be sent a detailed letter explaining how they scored and comments on each question.

This effectively starts the clock running if they wish to challenge anything that has been done.

5.1.3.2. PHASE 2

A reduced version of the ITT will be issued at this stage to allow further questions to be asked. Some scores will be carried through from phase 1. A meeting with both bidders will be undertaken to explain any changes that have been made and to highlight any key areas that the trust are keen to explore further.

Bidders will be asked to re submit their commercial offer taking into allowance any changes that have been made from Phase 1.

At the close of the Phase 2, evaluation will take place again followed by a moderation session and then the new financial score will be added to the overall evaluation. This should allow us to have a bidder in first place.

5.1.4. STAGE 4 - AWARD RECOMMENDATION REPORT

A report is produced that highlights all key areas of the procurement process and who the recommended company is.

Once this agreed by the trust a 10 day standstill period will begin. This is not compulsory for a mini competition but is good practice to allow this. It ensures that it is a controlled process and the bidders can be timed out from challenging.

5.1.5. STAGE 5 - CONTRACTUAL MEETINGS AND CONTRACT AWARD

A final run through the Equipment Replacement Plan will be required to ensure that there are no changes or alterations before being embedded on the contract. Usually at this stage the trust project team work closely with the winning bidder project team to ensure that all areas are covered and ready for implementation.

The legal representative will ensure that all contractual changes and amendments are agreed and duly amended as part of the final documentation.

It should be noted that there can be a difference between the contract agreement date and the contract start date.

5.2. MES CONTRACT

A detailed contract has been prepared for the procurement, and copies of the full document are available separately if required. A list of the proposed contract schedules is attached as ***Appendix 5A***.

5.3. PROCUREMENT TIMETABLE

The following timetable will be followed for the MES procurement:

Table 14: Proposed Project Timeframes

Dates	Days	Stage	Process
12-Aug-14	35	1	Define Requirements
			- Supplier Engagement Meeting
			- Maintenance Cover (Uptime)(response time)
			- Equipment replacement programme
			- Agree ITT Evaluation Criteria
			- Agree commercial / technical split
			- Agree Equipment Banding
			- Specification of Services
			- Specification for Equipment Replacement
			- Turnkey Costs (by Trust)
06-Nov-14			Trust Board Approval to OBC
15-Dec-14			TDA Approval to OBC
16-Dec-14	35	2	Issue ITT
			- Bidders Site Visit
			- Questions from Suppliers
			- Evaluation Training
20-Jan-15	42	3	Evaluation of Bids
			- Bidder presentations
			- Moderation Meeting 1
			- Reduce 5 bidders to 2
			- Clarification Meeting Bidder 1
			- Clarification Meeting Bidder 2
			- Final Bids Evaluation
			- Moderation Meeting 2
19-Mar-15	10	4	Award recommendation Report
			- 10 day standstill Period
07-Apr-15	35	5	Contractual meetings and Finalisation
			Complete FBC
07-May 2015			FBC approved by Trust Board
June 2015			FBC approved by TDA
30-June-15			Contract Award
			Mobilisation Period

As noted in Section 4.3 above, it is intended to seek proposals from bidders on the basis of a 10 – 15-year contract commencing with effect from 1st April 2016.

5.4. EVALUATION OF BIDS

Bids will be evaluated on the following basis:

- 60% based on detailed scoring against the agreed criteria included within the Tender package;
- 40% based on the financial appraisal of the bids.

The scoring will be undertaken by the Evaluation Panel, using the following scoring matrix.

Table 15: Scoring Matrix

SCORE	DEFINITION
5	Excellent, addresses all issues raised and is of a quality and level of detail and understanding that provides certainty of delivery and permits full contractual reliance (where applicable)
4	High degree of confidence in the Bidder's ability to do what is stated through a thorough understanding of what is being requested and responses demonstrating that the Bidder can do what they say they will; translates well into contractual terms (where applicable)
3	Good understanding of the issues, good level of detail, and demonstration that proposals are feasible so that there is a good level of confidence that the Bidder will deliver; can be transposed into contractual terms (where applicable)
2	Understands the issues and addresses them appropriately with sufficient information, but lacking reliable substance so as to suggest more of a "model answer" than a true commitment, and so only some confidence that the Bidder will be able deliver in line with expectations
1	Some misunderstandings and a generally low level of information and detail. Fails to meet expectations in many ways and provides insufficient confidence.
0	No information or barely understood by the Bidder and light on information. Provides no confidence that the issues will be addressed and managed at all in line with expectations

The financial appraisal will be measured over the period of the whole life of the contract and inclusive of all the information set out in the Equipment Replacement Plan.

In order that an overall decision can be made, the lowest cost bid will be assigned a score of 100, with other bidders' scores being determined based on the relationship between their costs and those of the lowest cost bidder (for example, a bid with double the costs would be scored as 50).

6. FINANCIAL CASE

6.1. IMPACT ON TRUST LIQUIDITY

The impact of the proposed procurement on the Trust's liquidity position has been calculated based on the figures shown in Section 4 above. In comparison to the forecasts included in the MMH OBC, this shows the following net impact:

Table 16: Impact of MES on Trust Liquidity

Cost	2014/15 £000's	2015/16 £000's	2016/17 £000's	2017/18 £000's	2018/19 £000's
Operating Activities	(11)	(456)	(748)	(1,127)	(749)
Investing Activities	80	635	750	528	1,015
Financing	2	22	43	54	77
Total	71	200	45	(545)	343
Cumulative Impact	71	272	317	(228)	115

Over the 5 year period to the end of 2018/19 this shows a modest improvement (£115,000) in the Trust's liquidity compared to the forecasts made within the MMH OBC. This arises from the reduction in cash outflows for equipment purchases forecast within the MMH OBC exceeding the additional cash outflow arising from the MES contract.

In preparing these forecasts the following assumptions have been made:

- The requirement for MRI and CT to support the services remaining in the BTC are excluded, as set out in Section 3.6.2, and will be the subject of a separate business case;
- Calculations relate to the replacement programme set out in this OBC and do not address the potential to adjust the replacement dates for specific items of equipment, or bringing existing equipment within the MES in advance of replacement. This can only be usefully explored with the ultimate MES supplier, and hence would be considered as part of the Full Business Case following procurement;
- Costs and savings have been apportioned across assets in proportion to asset capital values;
- Asset replacements at the end of their useful economic life have been built into the calculation;
- The MMH OBC already assumed a saving of £150,000 in equipment maintenance costs in comparison to the current budgets.

Over the full 10 year period of the LTFM (i.e. to 2023/24) there is a relatively modest £1,004,000 reduction in the Trust's liquidity, but this does not impact on the Trust's Liquidity Rating or Capital Servicing Capacity.

Full details of the analysis over the 10 year period to 2023/24 and the impact on the Trust Liquidity and Capital Servicing Ratings are shown in ***Appendix 6A***.

6.2. REVENUE AFFORDABILITY

The forecast revenue cost impact of the MES in comparison to the current (2014/15) budget is shown in Table 17 below:

Table 17: MES v PSC Affordability

Cost	Current £000's	Full Year PSC £000's	Full Year MES £000's
Maintenance Staffing	84	84	84
Maintenance Contracts	830	1,347	0
Non-Pay & Consumables	282	327	327
MES Contract	0	0	3,557
Capital Charges	1,800	2,550	0
Total Revenue Cost	2,996	4,308	3,968

In terms of revenue cost impact, this indicates that an MES solution:

- Would be potentially more affordable than the PSC by a significant margin of £340,000; but
- Represent an increase of £972,000 against current baseline budget provision (excluding any provision required for the costs of CT and MRI at the BTC).

Comparing the revenue costs arising from the MES solution to the forecasts included within the MMH OBC shows the following net position:

Table 18: Impact of MES on Trust Revenue Position

Cost	2014/15 £000's	2015/16 £000's	2016/17 £000's	2017/18 £000's	2018/19 £000's
Operating Costs	(11)	(456)	(748)	(1,127)	(749)
Depreciation	11	78	153	215	343
PDC Dividend	2	22	43	54	77
Total	3	(357)	(552)	(857)	(329)

The higher level of operating costs in comparison to the forecasts contained within the MMH OBC arise largely as a result of the timing assumptions set out in Section 6.1 above. As noted this will be reviewed with the ultimate MES supplier to ensure that the revenue position of the Trust is not adversely affected.

6.3. ACCOUNTING TREATMENT

It has been assumed that the MES will result in the assets included within the contract being "off balance sheet". This is consistent with the experience of some similar MES contracts within the NHS, but will require confirmation with the Trust's External Auditors in advance of contract signature.

There remains a risk, however, that once the final contractual details are available that it may be necessary to account for the transaction as "on balance sheet" in accordance with IAS17 and IFRIC4. If that is ultimately the case, there will be an adverse effect on both Liquidity and the Trust's Revenue position, particularly in later years, as follows:

Table 19: Impact of MES "On-Balance Sheet" on Trust Liquidity

Cost	2014/15 £000's	2015/16 £000's	2016/17 £000's	2017/18 £000's	2018/19 £000's
Operating Activities	0	(100)	(168)	(222)	1,113
Investing Activities	73	451	439	14	(41)
Financing	(2)	(148)	(220)	(326)	(710)
Total	71	203	51	(535)	363
Cumulative Impact	71	274	325	(209)	154
Short term capital liabilities recognised	(7)	(184)	(311)	(514)	(1,056)
Overall impact on Liquidity Rating	64	90	15	(723)	(902)

Table 20: Impact of MES "On-Balance Sheet" on Trust Revenue Position

Cost	2014/15 £000's	2015/16 £000's	2016/17 £000's	2017/18 £000's	2018/19 £000's
Operating Costs	0	(100)	(168)	(222)	1,113
Interest	(4)	(172)	(269)	(391)	(807)
Depreciation	3	(174)	(256)	(431)	(987)
PDC Dividend	2	24	49	64	97
Total	(1)	(422)	(644)	(980)	(584)

Full details of the analysis over the 10 year period to 2023/24 and the impact on the Trust Liquidity and Capital Servicing Ratings are again shown in ***Appendix 6A***.

An "on balance sheet" accounting treatment has an adverse impact on liquidity, because the liability for the following year's capital repayment is counted in the calculation of liquidity. The cash flows are the same whether the scheme is accounted for "on" or "off" balance sheet. The

accounting treatment also does not affect the Trust's ability to repay its debts as they fall due. Monitor has recognised that there may be situations where a Trust has a risk rating of 2 but is still financially stable. In its current Risk Assessment Framework, Monitor introduced a 2* risk rating. The guidance states that:

'Where a … provider has a risk rating of 2 but Monitor consider that there is little likelihood of deterioration in its financial position, we will assign a rating of 2 to the provider.'*

So if the Trust's risk rating was adversely affected solely as a result of an "on balance sheet" treatment for the MES, and financial performance was otherwise sound, the appropriateness of a 2* risk rating would be explored with the TDA and Monitor.

Detailed analysis of the potential "on Balance Sheet" impact of this OBC on the Trust's Liquidity and Capital Servicing Capacity has been undertaken, and this shows that:

- In comparison to the latest (Summer 2014) Integrated Business Plan, the MES does not change either rating;
- Compared to the MMH OBC, the Capital Servicing Capacity rating is unchanged, but the Liquidity rating would fall from a 3 to a 2 in 2019/20 only.

The risk in relation to Accounting Treatment is reflected in the Risk Register in Section 7.5 below.

6.4. VAT

It has been further assumed that VAT will be recoverable under NHS Contracted Out Services (COS) regulations. Again, this is consistent with the experience of other similar MES contracts. The risk in relation to VAT is also reflected in the Risk Register in Section 7.5 below.

7. MANAGEMENT CASE

7.1. PROJECT MANAGEMENT APPROACH AND ORGANISATION STRUCTURE

The MES Procurement Project Group is responsible to the MMH & Reconfiguration Committee, and is chaired by Graham Seager, Director of Estates / New Hospital Project Director.

On behalf of the MMH & Reconfiguration Committee, the MES Procurement Project Group will:

- Ensure that the MMH MES procurement project performs against plan and budget;
- Ensure project risk assessments and issues logs are up-to-date and robust;
- Set and monitor performance objectives for the MES Procurement project;
- Approve Project Executive Plan and next stage plans;
- Approve content of market brief including physical and commercial project scope for submission to MMH & Reconfiguration Committee;
- Ensure robust Equipment Impact assessments are developed and plans are implemented and monitored;
- Ensure robust benefits realisation plans are developed and delivered;
- Ensure robust business cases are developed and presented to MMH & Reconfiguration Committee and Trust Board for any required changes;
- Ensure a robust evaluation process is developed, delivered and on the basis of recommendations that an action plan is developed and implemented;
- Report progress to MMH & Reconfiguration Committee, the Trust Board and other relevant sub-committees on a monthly basis

7.2. PROJECT GROUP MEMBERSHIP

The following membership has been identified for the MES Project Group:

Table 21: Project Group Membership

	Member
Chair	Graham Seager; Director of Estates / New Hospital Project Director
External Representation	Martin Davies, Provex Consultancy Limited Phil Spicer, NHS Commercial Solutions
Internal Representation	Rob Banks, Deputy Director of Estates Daphne Lewsley, MMH Commercial Manager Rod Knight, MMH Senior Accountant Paul North, MMH Finance Manager Lawrence Barker, Head of Medical Engineering Justin Mitchell, Purchasing & Supplies Manager

	Member
	Scott Paterson, Head of IT James Young, Group Director of Operations – Imaging Adam Ashworth, Lead Superintendent Radiographer

Further representatives may be required, dependent upon the precise equipment items agreed for inclusion within the MES.

7.3. PROJECT TIMESCALES

The Timetable for Product Delivery and Milestones for this project are outlined below. A detailed Project Plan showing the relationships between the MES project, the related Cath Lab Procurement and the overall MMH Project timelines is included at ***Appendix 7A.***

Table 22: MES Procurement Project Timescale

Milestone	Start Date	End Date
Define Requirements for Outline Business Case ▪ Supplier Engagement meeting ▪ Maintenance cover (Uptime) (response time) ▪ Equipment replacement programme ▪ Agree ITT Evaluation Criteria ▪ Agree commercial/technical split ▪ Agree Equipment Banding ▪ Specification of Services ▪ Specification for Equipment Replacement ▪ Turnkey Costs (by Trust)	1st June 2014	18th July 2014
Prepare OBC for Trust Board Approval	5th September 2014	31st October 2014
OBC for Trust Board and TDA Approval	6th November 2014	15th December 2014
Issue ITT ▪ Bidders Site Visit ▪ Questions from Suppliers ▪ Evaluation Training	16th December 2014	20th January 2015
Evaluation of Bids ▪ Bidder Presentations ▪ Moderation Meeting 1	20th January 2015	20th February 2015

Milestone	Start Date	End Date
▪ Reduce 5 bidders to 2 ▪ Clarification meeting Bidder 1 ▪ Clarification meeting Bidder 2 ▪ Final Bids Evaluation ▪ Moderation meeting	20th February 2015	19th March 2015
Award Recommendation report ▪ 10 day standstill period	19th March 2015	29th March 2015
Contractual meetings and Finalisation	29th March 2015	30th April 2015
Full Business Case completion and approval	30th April 2015	30th June 2015
Contract Award **Mobilisation meeting**	30th June 2015	

This timetable allows a dialogue between the Preferred MES Supplier and the Bidders for the MMH Project during the Draft Final Bids Stage of that project.

It should be noted that once signed off these dates can only be changed with authority from the MMH & Reconfiguration Committee as resource will be committed based on these dates.

7.4. BENEFITS REALISATION

The following benefits are sought from the MES:

- The availability of appropriate equipment for the delivery of Trust services contributing to:
  - The Patient Experience;
  - Clinical Quality;
  - Teaching and Research.
- Affordable equipment services;
- Reduced calls on the Trust's available Capital Resource Limit and Cash;
- Clear and simplified responsibilities for the management of Equipment;
- Ease of implementation of the Managed Equipment Service;
- Ease of equipment transfer to MMH.

A Benefits Realisation Plan has been developed for the MMH project, which acts as a working document that will evolve and develop during the whole life of the project. The Benefits arising from the MES Project are already reflected within this Plan, and a copy is available separately if required.

Evaluation will be undertaken against the Benefits Realisation Plan as part of the overall approach to the Post Project Evaluation, to ascertain if the benefits identified against the objectives of the business case have been met as a result of the project.

7.5. RISK MANAGEMENT

The risks inherent in undertaking the procurement for an MES have been assessed in accordance with the Trust's Governance arrangements.

Risks will be regularly reviewed by the Project Group, and reported to the MMH & Reconfiguration Committee as part of the monthly report.

Risks have been recorded, categorised and mitigating actions agreed in accordance with the following methodology:

Table 23: Risk Matrix

RISK IDENTIFIED	LIKELIHOOD (H/M/L)	SEVERITY (H/M/L)	RISK SCORE = likelihood x severity)	MITIGATING ACTION
Procurement timescales not being met	1	2		Dedicated resources being made available to the project within overall MMH Project. External assistance from NHS Commercial Solutions to manage procurement.
An affordable MES solution not being achieved	1	3		Realistic forecasts made relating to likely level of costs. Competitive process underway to ensure the keenest possible prices are realised.
MES being viewed as "On Balance Sheet"	2	2		Detailed calculations made of potential impact. Contract reflects latest understanding of requirements for an "off Balance Sheet" conclusion. Guidance from Monitor and TDA to be explored in relation to Risk Ratings in the event that an "on Balance Sheet" accounting is required.
VAT recovery on MES Contract not available	1	3		Initial advice received from VAT adviser. Contract structure reflects latest understanding of COS regulations.
Suitable equipment not being available for MMH	1	3		This risk mitigated by the above actions.

High = 3, Medium = 2, Low = 1

Green Rating: below 4 Amber Rating: 4 Red Rating: 6 and above

As noted in the table above, none of the risks are currently shown as "Red" rated, and all risks and mitigations are regularly reviewed by the Project Team.

7.6. POST PROJECT EVALUATION

7.6.1. EVALUATION STAGES

An Evaluation Project Manager will co-ordinate the evaluation process. The process will be developed to reflect the requirements detailed in the most up-to-date guidance issued by the Department of Health (DH).

A Steering Group will be set up to manage the Post Project Evaluation (PPE) process. The objectives of this group will be to:

- Oversee on-going development of the PPE during the Procurement Phase of the project;
- Sign off the PPE prior to approval of the CBC ;
- Commission evaluation at Stages Two, Three and Four;
- Appoint and brief the Evaluation Teams;
- Receive and test evaluation reports prior to Trust Board review;
- Submit evaluation reports to the local stakeholders and DH;
- Make recommendations on action planning in response to evaluation; and
- Publish outcomes as required.

Frequency of meetings will depend on the stage of the evaluation. At stage one the group will meet infrequently at key stages of the project to guide the project team in the ongoing development of the PPE. During Stage Two, Three and Four a series of meetings will be convened to oversee each PPE review.

The membership of the Steering Group will change over time but will be reconvened at each stage to include all Executive Directors, a representative from the RCRH Partnership Board, a patient representative and representatives from the governing body of the Foundation Trust. It will be chaired by the Non-Executive Director who chairs the audit committee.

Resource will be committed from the Trust's Change Management Team to coordinate each review. The Evaluation Teams will be appointed from outside the organisation to facilitate objective assessment. The Steering Group may consider peer review from other organisations with experience in PFI development or may prefer to commission consultancy support.

The Gateway Review process at Gate 5 will form part of the PPE.

The methodology advised in the DH guidance will be used to ensure best practice. The tools of the PPE will include a section of the following:

- Questionnaires;
- Analysis of activity, workforce and other quantitative reports; and
- Structured interviews.

A report will be written to take the information requirements of all stakeholders into account. Action planning will follow the review to ensure changes delivered by the project are mainstreamed to ensure full benefits realisation.

The evaluation process will be co-ordinated by the Evaluation Manager as well as the Project Team, and involve other key stakeholders as required.

A detailed evaluation framework will be developed which embraces all elements of the project, including:

- The service benefits/aspirations detailed in the Benefits Realisation Plan;
- The functionality of the objectives for the project;
- The management of the process during the various stages of the project.

It is proposed to review the service benefits of the project after it has been operational for six months following which a full evaluation will take place after 18 months.

7.6.2. STAGE 1 – DEVELOPMENT OF AN EVALUATION PLAN

An Evaluation Plan will be developed in close conjunction with the Benefits Realisation Plan and Risk Management Strategy. It will act as a live working document, which will be constantly reviewed throughout the life of the project.

The Plan will outline:

- The objectives and scope of the evaluation; the outputs to be evaluated and the success criteria against which they will be measured;
- The performance indicators and measures for these criteria;
- More detailed information about the Evaluation Group and identification of the budget and resources for this work;
- A dissemination plan for ensuring the evaluation results are distributed and used to re-appraise the project; and clarification on the timings for evaluation.

7.6.3. STAGE 2 – EVALUATION REQUIREMENTS DURING PROCUREMENT PHASE

Progress will be monitored during the procurement phase, with outputs evaluated upon completion of this stage of the Project. Aspects to be evaluated will cover time, cost, service performance as well as management procedures, the functionality and contractor's performance etc.

7.6.4. STAGE 3 – IMPLEMENTATION PHASE

An evaluation covering a wider range of project evaluation criteria and benefits will be undertaken after a suitable bedding-in period after the implementation phase has been completed. It is anticipated that this will take place circa 6 to 12 months following the Procurement Stage.

7.6.5. STAGE 4 – OPERATIONAL PHASE

Further post-project evaluations will take place at a later stage, to assess the longer-term outcomes of the project, when the full effects have arisen.

7.6.6. EVALUATION TEAM STRUCTURE

Evaluation will be undertaken in line with the process outlined in Section of the MEH Business Case.

8. CONCLUSIONS AND RECOMMENDATIONS

This Outline Business Case has set out the case for establishing a new Managed Equipment Service Contract for the Trust's major medical equipment needs for the future. It is affordable within the financial forecasts made for the Midland Metropolitan Hospital, and offers the following significant benefits:

- The availability of high quality and up-to-date equipment, appropriate for the delivery of Trust services for the duration of the contract;
- Reduced calls on the Trust's available Capital Resource Limit and Cash;
- Clear and simplified responsibilities for the management of major medical equipment services;
- Ease of implementation and transfer of equipment to MMH.

The Trust Board is recommended to approve the OBC to enable the formal procurement process to commence with a view to entering into an MES contract. The term is proposed as ten years but the fifteen year option will be tested during procurement. The start date of the contract is expected to be 1st April 2016.

APPENDIX 3A: DETAILED EQUIPMENT REQUIREMENTS

MMH - MES PROCUREMENT PROJECT
EXISTING IMAGING EQUIPMENT
Sandwell and West Birmingham Hospitals NHS Trust
Version 3.0
29th October 2014

Location	Room	Modality	Item	Number	Replace Price Inc VAT £	Age Yrs	Rep Date Yr
BTC	Room 1	Plain Film (CR)	X-Ograph Buckstar	1	350,000	9	2020
BTC	Room 3	Plain Film (DR)	X-Ograph Canon BuckystarDR	1	350,000	9	2016
BTC	Viewing Room	CR Plate Reader	Carestream Plate Reader CR850 [8YRS]	1		9	N/A
BTC	Theatres	Image Intensifier	Siemens Siremobil Compact	1	90,000	10	2015
BTC	Pain Management	Image Intensifier	GE OEC 9800	1	90,000	10	2015
BTC	Ultrasound	Ultrasound	GE Logiq E9	1	80,000	1	2020
BTC	Ultrasound	Ultrasound	Toshiba Aplio 400	1	80,000	2	2019
BTC	Ultrasound	Ultrasound	Toshiba Aplio 400	1	80,000	2	2019
BTC	Ultrasound	Ultrasound	Toshiba Aplio 400	1	80,000	1	2020
Sandwell	Room 2	Plain Film (DR)	Siemens Aristos MX DR [11YRS] (includes Det cov	1	350,000	11	2015
Sandwell	Room 4	Plain Film (DR)	Siemens Ysio DR	1	350,000	11	2018
Neptune	Neptune	Plain Film (CR)	Philips Optimus50 XRay [14YRS]	1	300,000	14	2017
Neptune	Neptune	CR Plate Reader	Carestream Plate Reader CR850[9YRS]	1		9	N/A
Rowley	Rowley Regis	Plain Film (CR)	Siemens TOSRAD XRay [12YRS]	1	300,000	12	2016
Rowley	Rowley Regis	CR Plate Reader	Carestream Plate Reader Classic [5YRS]	1		5	N/A
Sandwell	CT reporting	CT	Siemens MMWP	1	50,000	4	2018
Sandwell	CT3	CT	Siemens AS [1YR]	1	700,000	1	2018
Sandwell	Forensics	Mobile (DR)	X-Ograph DART [8YRS]	1	100,000	8	2016
Sandwell	Room 4	OPG	Instrumentarium OC100[10YRS]	1	35,000	10	2015
Sandwell	MainDept	Ultrasound	GE Logiq E9 [1YRS]	1	80,000	1	2020
Sandwell	MainDept	Ultrasound	Toshiba Aplio 400 [1YR]	1	80,000	1	2020
Sandwell	MainDept	Ultrasound	Toshiba Aplio 300 [1YR]	1	80,000	1	2020
					3,625,000		

MMH - MES PROCUREMENT PROJECT
MMH FUTURE IMAGING EQUIPMENT
Sandwell and West Birmingham Hospitals NHS Trust
Version 3.0
29th October 2014

Location	Room	Modality	Item	Number	Total Price Inc VAT £	Transfer Source	Band	Rep Date Yr	Life (years)
MMH	CT Scanner	CT/MRI	CT Scanner (Single Source 128 Slice)	1	700,000	Line 32 (City CT)	1B	2018	8
MMH	CT Scanner	CT/MRI	CT Scanner (Dual Source)	1	1,200,000	Line 73 (Sandwell Flash)	1A	2017	8
MMH	IR Procedure Room	Angio	Interventional Radiology System	1	650,000	Line 71 (Sandwell Rm 1)	1B	2015	10
MMH	IR Procedure Room	Angio	Fluoroscopy Room	1	650,000	Line 29 (City Room 3)	2B	2017	10
MMH	IR Procedure Room	Angio	Fluoroscopy Room	1	650,000	Line 70 (Sandwell Room 6)	2B	2015	10
MMH	MRI	MRI	MRI (3.0T)	1	1,440,000	New for Scheme	1A	2018	10
MMH	MRI	MRI	MRI (1.5T)	1	960,000	Line 33 (City MRI)	1B	2018	10
MMH	Radionuclide	NM	SPECT CT (High Spec)	1	900,000	Line 35 (City NM)	1A	2022	10
MMH	Radionuclide	NM	SPECT CT (High Spec)	1	900,000	Line 36 (City NM)	1A	2018	10
MMH	Radionuclide	NM	SPECT CT (Basic Spec)	1	500,000	New for Scheme	2B	2018	10
MMH	Radionuclide	NM	Gamma Camera	1	420,000	Line 34 (City NM)	2B	2022	10
MMH	ED - Resus	DR	Moble X-Ray (DR)	1	100,000	Line 37 (City Philips DR)	1A	2023	10
MMH	Ultrasound	US	Ultrasound Scanner	1	87,500	Lines 50	1B	2018	7
MMH	Ultrasound	US	Ultrasound Scanner	1	87,500	Lines 51	1B	2019	7
MMH	Ultrasound	US	Ultrasound Scanner	1	87,500	Lines 90	1B	2017	7
MMH	Ultrasound	US	Ultrasound Scanner	1	87,500	Lines 91	1B	2018	7
MMH	Interventional	US	Ultrasound Scanner	1	72,000	Line 49 (City Nemio)	2B	2014	7
MMH	Wards	US	Ultrasound Scanner (Portable)	1	48,000	Line 52 (City Viamo)	1B	2018	7
MMH	ED- RDR	DR	Plain Film (DR)	1	350,000	Lines 26	1B	2018	10
MMH	ED- RDR	DR	Plain Film (DR)	1	350,000	Lines 27	1B	2018	10
MMH	General RDR	DR	Plain Film (DR)	1	350,000	Lines 24	1B	2018	10
MMH	General RDR	DR	Plain Film (DR)	1	350,000	Lines 25	1B	2018	10
MMH	CCS	DR	Moble X-Ray (DR)	1	100,000	Line 77 (Sandwell Mobile)	1A	2015	10
MMH	NNU	DR	Moble X-Ray (DR)	1	100,000	Line78 (Sandwell Mobile)	1A	2016	10
MMH	Wards	DR	Moble X-Ray (DR)	1	100,000	Line 39 (City wards)	1A	2015	10
MMH	Wards	DR	Moble X-Ray (DR)	1	100,000	Line 40 (City wards)	1A	2015	10
MMH	Cath Lab (Elective)	Angio	Biplane Cath Lab	1	880,000	Line 65 (Sandwell dTC)	1B	2016	10
MMH	cath Lab (Devices)	Angio	Biplane Cath Lab	1	880,000	New for Scheme	1B	2018	10
MMH	Cath Lab (Elective/Emer	Angio	Single Plane Cath Lab	1	650,000	Line 54 (City Allura)	1B	2015	10
MMH	Ante Natal	US	Ultrasound Scanner	1	70,000	Line 45	1B	2020	7
MMH	Ante Natal	US	Ultrasound Scanner	1	70,000	Line 46	1B	2020	7
MMH	Ante Natal	US	Ultrasound Scanner	1	70,000	Line 47	1B	2015	7
MMH	Ante Natal	US	Ultrasound Scanner	1	70,000	Line 48	1B	2017	7
MMH	Ante Natal	US	Ultrasound Scanner	1	70,000	Lines 84	1B	2017	7
MMH	Theatres	Angio	Image Intensifier	1	78,000	Lines 42	1B	2017	10
MMH	Theatres	Angio	Image Intensifier	1	78,000	Lines 43	1B	2016	10
MMH	Theatres	Angio	Image Intensifier	1	78,000	Lines 44	1B	2016	10
TOTAL					14,334,000			TOTAL INC VAT	

APPENDIX 4A: FINANCIAL AND ECONOMIC APPRAISAL

MMH - MES PROCUREMENT PROJECT
OUTPUTS FINANCIAL SUMMARY
Sandwell and West Birmingham Hospitals NHS Trust
Version 3.0
29th October 2014

1. EXISTING IMAGING EQUIPMENT

CAPITAL	Capital Cost including VAT			
Location	Remaining	Required MMH	Decommission	Total
	£000	£000	£000	£000
BTC	1,200	0	0	1,200
City	0	0	0	0
Sandwell	1,825	0	0	1,825
Rowley	300	0	0	300
Neptune	300	0	0	300
Total	3,625	0	0	3,625
Excludes: Sandwell Breast Screening; BTC CT/MRI; and Sandwell MRI				

REVENUE	BTC	City	Sandwell	Rowley	Neptune	Total
Current Annual Cost - 2014/16	£000	£000	£000	£000	£000	£000
Maintenance Staffing	0	18	67	0	0	84
Maintenance Contracts	42	319	450	11	8	830
Non-Pay	0	60	52	0	0	112
Consumables	0	85	85	0	0	170
Total Excluding Capital Charges	42	482	653	11	8	1,196
Capital Charges			NOT SPLIT			1,800
Lease Costs	0	0	0	0	0	0
Total Revenue Cost	42	482	653	11	8	2,996

Maintenance Contract Value per £1m Equipment	63

2. FUTURE IMAGING EQUIPMENT

CAPITAL	Capital Cost including VAT				
Location	Remaining	Replacement Cost of Required MMH	New elements at MMH	Total	
	£000	£000	£000	£000	
MMH		11,436	2,898	14,334	
BTC	1,200			1,200	
City	0			0	
Sandwell	1,825			1,825	
Rowley	300			300	
Neptune	300			300	
Total	3,625	11,436	2,898	17,959	
Excludes: Sandwell Breast Screening; BTC CT/MRI; and Sandwell MRI				14,334	Net > Current

REVENUE	Total
Future Annual Cost	£000
Maintenance Staffing	84
Maintenance Contracts	1,347
Non-Pay	130
Consumables	197
Total Excluding Capital Charges	1,758
Capital Charges	2,550
Lease Costs	0
Total Revenue Cost	4,308

MMH - MES PROCUREMENT PROJECT
EXISTING IMAGING EQUIPMENT
Sandwell and West Birmingham Hospitals NHS Trust
Version 3.0
29th October 2014

Location	Room	Modality	Item	Number	Cost Price Inc VAT £	Replace Price Inc VAT £	Age Yrs	Rep Date Yr	Maint	Required MMH	Remain	Decommission	Required MMH	Life (years)	Band	REPLACEMENT YEAR FOR ITEMS REMAINING AT BTC and SANDWELL 2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
BTC	Room 1	Plain Film (CR)	X-Ograph Buckstar	1	46,415.00	350,000.00	9	2020	2,280		Yes			10	1B	0	0	0	0	0	0	350,000	0	0	0
BTC	Room 3	Plain Film (DR)	X-Ograph Canon BuckystarDR	1	320,000.00	350,000.00	9	2016	9,728		Yes			10	1B	0	0	350,000	0	0	0	0	0	0	0
BTC	Viewing Room	CR Plate Reader	Carestream Plate Reader CR850 [8YRS]	1	14,614.00		9	N/A	4,573			Yes		10	N/A	0	0	0	0	0	0	0	0	0	0
BTC	Theatres	Image Intensifier	Siemens Siremobil Compact	1	65,000.00	90,000.00	10	2015	5,510		Yes			10	2B	0	90,000	0	0	0	0	0	0	0	0
BTC	Pain Management	Image Intensifier	GE OEC 9800	1	48,000.00	90,000.00	10	2015	6,575		Yes			10	2B	0	90,000	0	0	0	0	0	0	0	0
BTC	Ultrasound	Ultrasound	GE Logiq E9	1	50,800.00	80,000.00	1	2020	2,880		Yes			7	1B	0	0	0	0	0	0	80,000	0	0	0
BTC	Ultrasound	Ultrasound	Toshiba Aplio 400	1	61,480.00	80,000.00	2	2019	3,420		Yes			7	1B	0	0	0	0	0	80,000	0	0	0	0
BTC	Ultrasound	Ultrasound	Toshiba Aplio 400	1	48,600.00	80,000.00	2	2019	3,420		Yes			7	1B	0	0	0	0	0	80,000	0	0	0	0
BTC	Ultrasound	Ultrasound	Toshiba Aplio 400	1	55,510.00	80,000.00	1	2020	3,420		Yes			7	1B	0	0	0	0	0	0	80,000	0	0	0
City	Room 1	Plain Film (CR)	Philips Optimus 50 [17YRS]	1	26,788.00		17	N/A	4,432			Yes				0	0	0	0	0	0	0	0	0	0
City	Room 5	Plain Film (DR)	Siemens Ysio DR	1	173,780.00		0	2018	warranty	Yes			Lines 24			0	0	0	0	0	0	0	0	0	0
City	Room 2	Plain Film (DR)	Philips DigiDiagnost DR	1	203,268.00		1	2018	5369*	Yes			Lines 25			0	0	0	0	0	0	0	0	0	0
City	ED Room A	Plain Film (DR)	Philips DigiDiagnost DR [4YRS]	1	313,944.00		4	2018	10,462	Yes			Lines 26			0	0	0	0	0	0	0	0	0	0
City	ED Room B	Plain Film (DR)	Siemens Ysio DR	1	173,780.00		0	2018	warranty	Yes			Lines 27			0	0	0	0	0	0	0	0	0	0
City	ED	CR Plate Reader	Carestream Plate Reader CR850 [8YRS]	1	14,614.00		8	N/A	4,573			Yes				0	0	0	0	0	0	0	0	0	0
City	Room 3	Fluoroscopy	Philips Easy Diagnost [7YRS]	1	211,500.00		7	2017	18,469	Yes			Line 29 (City Room 3)			0	0	0	0	0	0	0	0	0	0
City	Room 4	Fluoroscopy	Philips OmniDiagnost [12YRS]	1	250,000.00		12	N/A	6896**			Yes				0	0	0	0	0	0	0	0	0	0
City	Room 11	Interventional Radiology	Philips Allura FD20 [5YRS]	1	563,938.00		5	N/A	8000**			Yes				0	0	0	0	0	0	0	0	0	0
City	CT2	CT	Siemens Sensation 16 [8YRS]	1	520,000.00		7	2018	51,027	Yes			Line 32 (City CT)			0	0	0	0	0	0	0	0	0	0
City	MRI	MRI	Siemens MagnetomAvanto [4YRS]	1	1,251,780.00		3	2018	66,925	Yes			Line 33 (City MRI)			0	0	0	0	0	0	0	0	0	0
City	MRI	SPECT	GE NM630 [1YR]	1	270,000.00		1	2022	25,650	Yes			Line 34 (City NM)			0	0	0	0	0	0	0	0	0	0
City	MRI	SPECT CT	GE NM670 1YR]	1	684,000.00		1	2022	49,600	Yes			Line 35 (City NM)			0	0	0	0	0	0	0	0	0	0
City	MRI	SPECT CT	GE Hawkeye Infinia[7YRS]	1	277,390.00		7	2018	19,600	Yes			Line 36 (City NM)			0	0	0	0	0	0	0	0	0	0
City	ED	Mobile (DR)	Philips Mobile Diagnost	1	94,885.00		1	2023	1224**	Yes			Line 37 (City Philips DR)			0	0	0	0	0	0	0	0	0	0
City	NNU	Mobile (CR)	GE AMX 4 + [11YRS]	1	25,000.00		11	2015	710			Yes				0	0	0	0	0	0	0	0	0	0
City	Main Spine	Mobile (CR)	GE AMX4 + [11YRS]	1	25,000.00		11	2015	710			Yes				0	0	0	0	0	0	0	0	0	0
City	Sheldon	Mobile (CR)	GE AMX4 [18YRS]	1	22,000.00		18	2015	710			Yes				0	0	0	0	0	0	0	0	0	0
City	Room 5	OPG	Henry SchienSIRONA DR	1	35,801.00		1	2018	0***			Yes				0	0	0	0	0	0	0	0	0	0
City	Theatres	Image Intensifier	Siemens Siremobil[10YRS]	1	65,000.00		10	2017	5,828			Yes				0	0	0	0	0	0	0	0	0	0
City	Theatres	Image Intensifier	Siemens Siremobil [10YRS]	1	65,000.00		10	2016	5,828	Yes			Lines 42			0	0	0	0	0	0	0	0	0	0
City	Theatres	Image Intensifier	Siemens Siremobil [13YRS] CARDIOLOGY	1	62,000.00		13	2016		Yes		Yes	Lines 44			0	0	0	0	0	0	0	0	0	0
City	Antenatal	Ultrasound	GE Logiq E6	1	44,723.00		1	2020	1,080	Yes			Line 45			0	0	0	0	0	0	0	0	0	0
City	Antenatal	Ultrasound	GE Logiq E6	1	44,723.00		1	2020	1,080	Yes			Line 46			0	0	0	0	0	0	0	0	0	0
City	Antenatal	Ultrasound	GE Logiq E8	1	60,704.00		7	2015	2,880	Yes			Line 47			0	0	0	0	0	0	0	0	0	0
City	Antenatal	Ultrasound	GE Logiq E6	1	36,342.00		4	2017	1,080	Yes			Line 48			0	0	0	0	0	0	0	0	0	0
City	Main Dept	Ultrasound	Toshiba Nemio	1	36,000.00		10	2014	445	Yes			Line 49 (City Nemio)			0	0	0	0	0	0	0	0	0	0
City	Main Dept	Ultrasound	Toshiba Aplio 400	1	80,402.00		3	2018	3,420	Yes			Lines 50			0	0	0	0	0	0	0	0	0	0
City	Main Dept	Ultrasound	Toshiba Aplio 400	1	69,450.00		2	2019	3,420	Yes			Lines 51			0	0	0	0	0	0	0	0	0	0
City	Main Dept	Ultrasound	Tosiba Viamo	1	41,586.00		3	2018	356			Yes				0	0	0	0	0	0	0	0	0	0
City	Main Spine	Dexa	GE Lunar Prodigy	1	65,000.00		11	2015	925			Yes				0	0	0	0	0	0	0	0	0	0
City	Cath Lab	Interventional Radiology	Philips Allura FD10	1	600,000.00		10	2015	39,998	Yes			Line 54 (City Allura)			0	0	0	0	0	0	0	0	0	0
Sandwell	Room 2	Plain Film (DR)	Siemens Aristos MX DR [11YRS] (Includes Det cov	1	258,000.00	350,000.00	11	2015	28,460		Yes			10	1B	0	350,000	0	0	0	0	0	0	0	0
Sandwell	Room 4	Plain Film (DR)	Siemens Ysio DR	1	225,018.00	350,000.00	11	2018	warranty		Yes			10	1B	0	0	0	0	350,000	0	0	0	0	0
Sandwell	ED	Plain Film (CR)	X- Ograph BuckystarXRay [9YRS]	1	210,000.00		9	2016	5,057			Yes				0	0	0	0	0	0	0	0	0	0
Sandwell	ED	CR Plate Reader	Carestream Plate Reader CR850 [9YRS]	1	15,000.00		9	N/A	4,573			Yes				0	0	0	0	0	0	0	0	0	0
Sandwell	Main Xray	CR Plate Reader	Carestream Plate Reader CR975 [5YRS]	1	30,000.00		5	N/A	10,446			Yes				0	0	0	0	0	0	0	0	0	0
Sandwell	Main Xray	CR Plate Reader	Carestream Plate Reader CR975 [5YRS]	1	30,000.00		5	N/A	10,446			Yes				0	0	0	0	0	0	0	0	0	0
Sandwell	N1 Inpatients	Plain Film (CR)	Siemens MULTIX TOP XRay [10YRS]	1	60,000.00		10	2015	4,993			Yes				0	0	0	0	0	0	0	0	0	0
Sandwell	N1 Inpatients	CR Plate Reader	Carestream Plate Reader CR800 [12YRS]	1	30,000.00		12	N/A	7,178			Yes				0	0	0	0	0	0	0	0	0	0
Sandwell	ESC EAU	Plain Film (CR)	Siemens MULTIX TOP XRay [11YRS]	1	65,000.00		11	2016	4,993			Yes				0	0	0	0	0	0	0	0	0	0
Sandwell	ESC EAU	CR Plate Reader	Carestream Plate Reader CR800[12YRS]	1	30,000.00		12	N/A	7,178			Yes				0	0	0	0	0	0	0	0	0	0
Sandwell	ESC	Fluoroscopy	Siemens dTC Catheter Lab [9YRS]	1	906,399.00		9	2016	49,427	Yes			Line 65 (Sandwell dTC)			0	0	0	0	0	0	0	0	0	0
Neptune	Neptune	Plain Film (CR)	Philips Optimus50 XRay [14YRS]	1	258,000.00	300,000.00	14	2017	3,449		Yes			10	2B	0	0	0	300,000	0	0	0	0	0	0
Neptune	Neptune	CR Plate Reader	Carestream Plate Reader CR850[9YRS]	1	14,999.00		9	N/A	4,573			Yes			N/A	0	0	0	0	0	0	0	0	0	0
Rowley	Rowley Regis	Plain Film (CR)	Siemens TOSRAD XRay [12YRS]	1	258,000.00	300,000.00	12	2016	4,990		Yes			10	2B	0	0	300,000	0	0	0	0	0	0	0
Rowley	Rowley Regis	CR Plate Reader	Carestream Plate Reader Classic [5YRS]	1	15,000.00		5	N/A	3,902			Yes			N/A	0	0	0	0	0	0	0	0	0	0
Sandwell	Room 6	Fluoroscopy	Siemens Flurospot TOP [13 YRS]	1	286,175.00		13	2015	25,562	Yes			Line 70 (Sandwell Room 6)			0	0	0	0	0	0	0	0	0	0
Sandwell	Room 1	Interventional Radiology	Siemens FA [11YRS]	1	573,500.00		11	2015	32,152	Yes			Line 71 (Sandwell Rm 1)			0	0	0	0	0	0	0	0	0	0
Sandwell	Room 1	Interventional Radiology	Siemens Sensis (patient monitoring)	1	50,000.00		11	2017	8,874			Yes				0	0	0	0	0	0	0	0	0	0
Sandwell	CT 1	CT	Siemens Flash [4YR]	1	1,069,900.00		4	2017	113,217	Yes			Line 73 (Sandwell Flash)			0	0	0	0	0	0	0	0	0	0
Sandwell	CT reporting	CT	Siemens MMWP	1	50,000.00	50,000.00	4	2018	3,035		Yes			8	1B	0	0	0	0	50,000	0	0	0	0	0
Sandwell	CT3	CT	Siemens AS [1YR]	1	556,080.00	700,000.00	1	2018	50,116		Yes			8	1B	0	0	0	0	700,000	0	0	0	0	0
Sandwell	A&E	Mobile (CR)	1 x Siemens Mobilette [14YRS]	1	30,000.00		14	2015	2,952			Yes				0	0	0	0	0	0	0	0	0	0
Sandwell	Wards (incl. paediatrics	Mobile (CR)	1 x Siemens Mobilette [10YRS]	1	22,740.00		10	2015	2,773	Yes			Line 77 (Sandwell Mobile)			0	0	0	0	0	0	0	0	0	0
Sandwell	Wards	Mobile (CR)	GE AMX 4 + [11YRS]	1	25,000.00		11	2016	2,211	Yes			Line78 (Sandwell Mobile)			0	0	0	0	0	0	0	0	0	0
Sandwell	Forensics	Mobile (DR)	X-Ograph DART [8YRS]	1	121,260.00	100,000.00	8	2016	4,644		Yes			10	1A	0	0	100,000	0	0	0	0	0	0	0
Sandwell	Room 4	OPG	Instrumentarium OC100[10YRS]	1	31,675.00	35,000.00	10	2015	1,310		Yes			10	2A	0	35,000	0	0	0	0	0	0	0	0
Sandwell	Theatres	Image Intensifier	Siemens Siremobil	1	61,829.00		1	2023	7,486			Yes				0	0	0	0	0	0	0	0	0	0
Sandwell	Theatres	Image Intensifier	Siemens Siremobil [12YRS]	1	76,080.00		12	2016	5,680			Yes				0	0	0	0	0	0	0	0	0	0
Sandwell	Theatres	Image Intensifier	Siemens Siremobil [10YRS]	1	76,080.00		10	2016	6,419			Yes				0	0	0	0	0	0	0	0	0	0
Sandwell	Antenatal	Ultrasound	GE Voluson E6 [4YRS]	1	49,020.00		4	2017	2,340	Yes			Lines 84			0	0	0	0	0	0	0	0	0	0
Sandwell	Antenatal	Ultrasound	GE Voluson E8 [7YRS]	1	87,720.00		7	2015	2,880			Yes				0	0	0	0	0	0	0	0	0	0
Sandwell	Antenatal	Ultrasound	GE Voluson 730 [7YRS]	1	87,720.00		7	2015	2,880			Yes				0	0	0	0	0	0	0	0	0	0
Sandwell	MainDept	Ultrasound	GE Logiq E9 [1YRS]	1	50,800.00	80,000.00	1	2020	2,880		Yes			7	1B	0	0	0	0	0	0	80,000	0	0	0
Sandwell	MainDept	Ultrasound	Toshiba Aplio 400 [1YR]	1	68,724.00	80,000.00	1	2020	5,016		Yes			7	1B	0	0	0	0	0	0	80,000	0	0	0
Sandwell	MainDept	Ultrasound	Toshiba Aplio 300 [1YR]	1	42,826.00	80,000.00	1	2020	4,750		Yes			7	1B	0	0	0	0	0	0	80,000	0	0	0
Sandwell	MainDept	Ultrasound	GE Logiq E [4YRS]	1	87,720.00		4	2017	1,080	Yes			Lines 42			0	0	0	0	0	0	0	0	0	0
Sandwell	ESC	Ultrasound	GE Logiq E9 [3YRS]	1	62,000.00		3	2018	2,880	Yes			Lines 44			0	0	0	0	0	0	0	0	0	0
Sandwell	ESC	Ultrasound	GE Logiq E9 [4YRS]	1	65,000.00		4	2017	2,880			Yes				0	0	0	0	0	0	0	0	0	0
Rowley	Rowley	Ultrasound	GE Logiq P6 [4YRS]	1	53,667.60		4	2017	2,340			Yes				0	0	0	0	0	0	0	0	0	0
Sandwell	CT dept	CT	Siemens Syngo VIA Upgrade	1	43,000.00			2016	17,514			Yes				0	0	0	0	0	0	0	0	0	0
Sandwell	all US	Ultrasound	MIUS general probe cover (maintenance)	1				N/A	5,400			Yes				0	0	0	0	0	0	0	0	0	0
					13,252,750	3,625,000			829,950				TOTAL INC VAT			0	565,000	750,000	300,000	1,100,000	160,000	750,000	0	0	0	3,625,000
					Maintenance per £1m c	Maintenance per £1m cost			62,625																	
			ex VAT	11,043,958									TOTAL EXC VAT			0	470,833	625,000	250,000	916,667	133,333	625,000	0	0	0	3,020,833

* 8 months only
** 3 months only
*** 5 year warranty

BTC	1,200,000	BTC Maint	41,806	BTC	0	180,000	350,000	0	0	160,000	510,000	0	0	0	
City	0	City Maint	319,208	City	0	0	0	0	0	0	0	0	0	0	
Sand	1,825,000	Sand Maint	449,682	Sand	0	385,000	100,000	0	1,100,000	0	240,000	0	0	0	
Rowley	300,000	Rowley Maint	11,232	Rowley	0	0	300,000	0	0	0	0	0	0	0	
Nept	300,000	Nept Maint	8,022	Nept	0	0	0	300,000	0	0	0	0	0	0	
Total	3,625,000	Total Maint	829,950	Total	0	565,000	750,000	300,000	1,100,000	160,000	750,000	0	0	0	3,625,000

Retained Estate with Imaging Kit

MMH - MES PROCUREMENT PROJECT
MMH FUTURE IMAGING EQUIPMENT
Sandwell and West Birmingham Hospitals NHS Trust
Version 3.0
29th October 2014

Transfer Source

Location	Room	Modality	Item	Number	Total Price Inc VAT		Band	Rep Date Yr	REPLACEMENT YEAR 2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Life (years)
MMH	CT Scanner	CT/MRI	CT Scanner (Single Source 128 Slice)	1	£700,000.00	Line 32 (City CT)	1B	2018	0	0	0	0	700,000	0	0	0	0	0	8
MMH	CT Scanner	CT/MRI	CT Scanner (Dual Source)	1	£1,200,000.00	Line 73 (Sandwell Flash)	1A	2017	0	0	0	1,200,000	0	0	0	0	0	0	8
MMH	IR Procedure Room	Angio	Interventional Radiology System	1	£650,000.00	Line 71 (Sandwell Rm 1)	1B	2015	0	650,000	0	0	0	0	0	0	0	0	10
MMH	IR Procedure Room	Angio	Fluoroscopy Room	1	£650,000.00	Line 29 (City Room 3)	2B	2017	0	0	0	650,000	0	0	0	0	0	0	10
MMH	IR Procedure Room	Angio	Fluoroscopy Room	1	£650,000.00	Line 70 (Sandwell Room 6)	2B	2015	0	650,000	0	0	0	0	0	0	0	0	10
MMH	MRI	MRI	MRI (3.0T)	1	£1,440,000.00	New for Scheme	1A	2018	0	0	0	0	1,440,000	0	0	0	0	0	10
MMH	MRI	MRI	MRI (1.5T)	1	£960,000.00	Line 33 (City MRI)	1B	2018	0	0	0	0	960,000	0	0	0	0	0	10
MMH	Radionuclide	NM	SPECT CT (High Spec)	1	£900,000.00	Line 35 (City NM)	1A	2022	0	0	0	0	0	0	0	0	900,000	0	10
MMH	Radionuclide	NM	SPECT CT (High Spec)	1	£900,000.00	Line 36 (City NM)	1A	2018	0	0	0	0	900,000	0	0	0	0	0	10
MMH	Radionuclide	NM	SPECT CT (Basic Spec)	1	£500,000.00	New for Scheme	2B	2018	0	0	0	0	500,000	0	0	0	0	0	10
MMH	Radionuclide	NM	Gamma Camera	1	£420,000.00	Line 34 (City NM)	2B	2022	0	0	0	0	0	0	0	0	420,000	0	10
MMH	ED - Resus	DR	Moble X-Ray (DR)	1	£100,000.00	Line 37 (City Philips DR)	1A	2023	0	0	0	0	0	0	0	0	0	100,000	10
MMH	Ultrasound	US	Ultrasound Scanner	1	£87,500.00	Lines 50	1B	2018	0	0	0	0	87,500	0	0	0	0	0	7
MMH	Ultrasound	US	Ultrasound Scanner	1	£87,500.00	Lines 51	1B	2019	0	0	0	0	0	87,500	0	0	0	0	7
MMH	Ultrasound	US	Ultrasound Scanner	1	£87,500.00	Lines 90	1B	2017	0	0	0	87,500	0	0	0	0	0	0	7
MMH	Ultrasound	US	Ultrasound Scanner	1	£87,500.00	Lines 91	1B	2018	0	0	0	0	87,500	0	0	0	0	0	7
MMH	Interventional	US	Ultrasound Scanner	1	£72,000.00	Line 49 (City Nemio)	2B	2014	72,000	0	0	0	0	0	0	0	0	0	7
MMH	Wards	US	Ultrasound Scanner (Portable)	1	£48,000.00	Line 52 (City Viamo)	1B	2018	0	0	0	0	48,000	0	0	0	0	0	7
MMH	ED- RDR	DR	Plain Film (DR)	1	£350,000.00	Lines 26	1B	2018	0	0	0	0	350,000	0	0	0	0	0	10
MMH	ED- RDR	DR	Plain Film (DR)	1	£350,000.00	Lines 27	1B	2018	0	0	0	0	350,000	0	0	0	0	0	10
MMH	General RDR	DR	Plain Film (DR)	1	£350,000.00	Lines 24	1B	2018	0	0	0	0	350,000	0	0	0	0	0	10
MMH	General RDR	DR	Plain Film (DR)	1	£350,000.00	Lines 25	1B	2018	0	0	0	0	350,000	0	0	0	0	0	10
MMH	CCS	DR	Moble X-Ray (DR)	1	£100,000.00	Line 77 (Sandwell Mobile)	1A	2015	0	100,000	0	0	0	0	0	0	0	0	10
MMH	NNU	DR	Moble X-Ray (DR)	1	£100,000.00	Line78 (Sandwell Mobile)	1A	2016	0	0	100,000	0	0	0	0	0	0	0	10
MMH	Wards	DR	Moble X-Ray (DR)	1	£100,000.00	Line 39 (City wards)	1A	2015	0	100,000	0	0	0	0	0	0	0	0	10
MMH	Wards	DR	Moble X-Ray (DR)	1	£100,000.00	Line 40 (City wards)	1A	2015	0	100,000	0	0	0	0	0	0	0	0	10
MMH	Cath Lab (Elective)	Angio	Biplane Cath Lab	1	£880,000.00	Line 65 (Sandwell dTC)	1B	2016	0	0	880,000	0	0	0	0	0	0	0	10
MMH	cath Lab (Devices)	Angio	Biplane Cath Lab	1	£880,000.00	New for Scheme	1B	2018	0	0	0	0	880,000	0	0	0	0	0	10
MMH	Cath Lab (Elective/Emer	Angio	Single Plane Cath Lab	1	£650,000.00	Line 54 (City Allura)	1B	2015	0	650,000	0	0	0	0	0	0	0	0	10
MMH	Ante Natal	US	Ultrasound Scanner	1	£70,000.00	Line 45	1B	2020	0	0	0	0	0	0	70,000	0	0	0	7
MMH	Ante Natal	US	Ultrasound Scanner	1	£70,000.00	Line 46	1B	2020	0	0	0	0	0	0	70,000	0	0	0	7
MMH	Ante Natal	US	Ultrasound Scanner	1	£70,000.00	Line 47	1B	2015	0	70,000	0	0	0	0	0	0	0	0	7
MMH	Ante Natal	US	Ultrasound Scanner	1	£70,000.00	Line 48	1B	2017	0	0	0	70,000	0	0	0	0	0	0	7
MMH	Ante Natal	US	Ultrasound Scanner	1	£70,000.00	Lines 84	1B	2017	0	0	0	70,000	0	0	0	0	0	0	7
MMH	Theatres	Angio	Image Intensifier	1	£78,000.00	Lines 42	1B	2017	0	0	0	78,000	0	0	0	0	0	0	10
MMH	Theatres	Angio	Image Intensifier	1	£78,000.00	Lines 43	1B	2016	0	0	78,000	0	0	0	0	0	0	0	10
MMH	Theatres	Angio	Image Intensifier	1	£78,000.00	Lines 44	1B	2016	0	0	78,000	0	0	0	0	0	0	0	10
TOTAL					14,334,000			TOTAL INC VAT	72,000	2,320,000	1,136,000	2,155,500	7,003,000	87,500	140,000	0	1,320,000	100,000	14,334,000	
								TOTAL EXC VAT	60,000	1,933,333	946,667	1,796,250	5,835,833	72,917	116,667	0	1,100,000	83,333	11,945,000	
			Replacement cost of Transferred	0	11,436,000			Replaced inc VAT	72,000	2,320,000	1,136,000	2,155,500	4,183,000	87,500	140,000	0	1,320,000	100,000	11,514,000	
			New	0	2,898,000			New inc VAT	0	0	0	0	2,820,000	0	0	0	0	0	2,820,000	
			Total MMH	0	14,334,000														

MMH - MES PROCUREMENT PROJECT
REVENUE COSTS
Sandwell and West Birmingham Hospitals NHS Trust
Version 3.0
29th October 2014

IMAGING REVENUE COSTS	Current Annual Cost 2014/15					Current	Future	Change
	BTC	City	Sandwell	Rowley	Neptune	Total	Total	Total
	£000	£000	£000	£000	£000	£000	£000	£000
Maintenance Staffing		18	67			84	84	0
Maintenance Contracts	42	319	450	11	8	830	1,347	517
Non-Pay		60	52			112	130	18
Consumables		85	85			170	197	27
Total Excluding Capital Charges	42	482	653	11	8	1,196	1,758	562
Capital Charges			NOT SPLIT			1,800	2,550	749
Lease Costs						0	0	0
Total Revenue Cost	42	482	653	11	8	2,996	4,308	1,312

SWBH NHS Trust

MES

MODEL VERSION: VfM Model 15 Years - Version 3.1

MODEL DATE: 30th October 2014

ECONOMIC APPRAISAL
OUTPUTS SUMMARY
SWBH NHS Trust
MES
VfM Model 15 Years - Version 3.1
30th October 2014

1.0	**RECURRENT REVENUE IMPACT**	PSC	MES
	NET REVENUE CHANGE at 2014/15 prices	*£000*	*£000*
1.1	*Baseline Year: 2014/15*		
	Maintenance Staffing	84	84
	Maintenance Contracts	830	830
	Non-Pay & Consumables	282	282
	MES Rental	0	0
	Capital Charges	1,800	1,800
	Revenue Expenditure	2,996	2,996
1.2	*Forecast Year*	2016/17	2016/17
	Maintenance Staffing	84	84
	Maintenance Contracts	1,347	0
	Non-Pay & Consumables	327	327
	MES Rental	0	3,557
	Capital Charges	2,550	0
	Revenue Expenditure	4,308	3,968
1.3	*Forecast: Change*		
	Maintenance Staffing	0	0
	Maintenance Contracts	517	(830)
	Non-Pay & Consumables	45	45
	MES Rental	0	3,557
	Capital Charges	749	(1,800)
	Net Expenditure Change	1,312	972

2.0	**ECONOMIC IMPACT**	PSC	MES
	APPRAISAL PERIOD (YEARS)	*17*	*17*
		£000	*£000*
2.1	**Base Impact excluding Risk**		
	Net Present Cost (NPC)	40,569	42,358
	Equivalent Annual Cost (EAC)	3,098	3,235
	Economic Ranking of Development Options: Base Impact excluding Risk	***1***	***2***
2.2	**Impact of Risk**		
	Net Present Cost (NPC)	2,801	82
	Equivalent Annual Cost (EAC)	205	6
	Economic Ranking of Options: Impact of Risk	***2***	***1***
2.3	**Economic Impact including Risk**		
	Net Present Cost (NPC)	43,369	42,440
	Equivalent Annual Cost (EAC)	3,303	3,241
	Economic Ranking of Development Options	***2***	***1***
	MARGINAL EAC IMPACT OVER OPTION RANKED 1	62	0
	EAC SWITCH VALUES	(62)	62

3.0	**ECONOMIC SENSITIVITY - Change in Costs required to trigger switch values**	PSC	MES
		£000	*£000*
3.1	**Capital Costs**		
	Baseline Capital Costs		
	Flexed Capital Costs		
	Change required		
	Change %		
3.2	**Revenue Costs**	*Revenue*	*Rental*
	Baseline MES Rental		3,557
	Flexed MES Rental		3,649
	Change required		93
	Change %		2.6%

ECONOMIC APPRAISAL
VfM SUMMARY OUTPUTS
SWBH NHS Trust
MES
VfM Model 15 Years - Version 3.1
30th October 2014

OPTION			MMH	MMH Refresh	Other	Other Refresh	Residual Value	0	TOTAL CAPITAL	REVENUE COSTS: Maintenance Staffing	Maintenance Contracts	Non-Pay & Consumables	MES Rental	TOTAL REVENUE	RISK EAC	TOTAL COSTS	
			£000	£000	£000	£000	£000	£000	£000	£000	£000	£000	£000	£000	£000	£000	
PSC	17 Yrs																
RANK	2																
CASH			12,542	11,424	3,172	3,172	(9,631)	0	**20,679**	1,434	22,957	5,469	0	29,860		**50,539**	TRUE
NPC	13.0941		11,099	7,400	2,818	2,057	(5,554)	0	**17,819**	1,105	17,451	4,193	0	22,749		**40,569**	TRUE
EAC	*TRUE*		848	565	215	157	(424)	0	**1,361**	84	1,333	320	0	1,737		**3,098**	TRUE
EAC	*RISK*														205	**3,303**	TRUE
MES	17 Yrs																
RANK	1																
CASH			0	0	0	0	0	0	**0**	1,434	3,661	5,386	46,753	57,234		**57,234**	TRUE
NPC	13.0941		0	0	0	0	0	0	**0**	1,105	3,454	4,121	33,679	42,358		**42,358**	TRUE
EAC	*TRUE*		0	0	0	0	0	0	**0**	84	264	315	2,572	3,235		**3,235**	TRUE
EAC	*RISK*														6	**3,241**	TRUE

EAC MARGINS OVER VfM PREFERRED OPTION																
MES	1	EAC	0	0	0	0	0	0	**0**	84	264	315	2,572	**3,235**	6	**3,241**
PSC	2	EAC	848	565	215	157	(424)	0	**1,361**	84	1,333	320	0	**1,737**	205	**3,303**
EAC Margin			848	565	215	157	(424)	0	**1,361**	0	1,069	6	(2,572)	**(1,498)**	199	**62**

ECONOMIC APPRAISAL
CAPITAL CHARGES ANALYSIS - SUMMARY
SWBH NHS Trust
MES
VfM Model 15 Years - Version 3.1
30th October 2014

CAPITAL CHARGES SUMMARY		PSC £000	MES £000	£000
1. BASELINE CAPITAL CHARGES:				
Land	Return	0.0	0.0	0.0
Buildings	Return	0.0	0.0	0.0
Buildings	Depn	0.0	0.0	0.0
Equipment	Return	261.5	261.5	0.0
Equipment	Depn	1,539.0	1,539.0	0.0
Total Baseline Capital Charges		**1,800.5**	**1,800.5**	**0.0**

2. BASELINE CAPITAL CHARGES SAVED:				
Land	Return	0.0	0.0	0.0
Buildings	Return	0.0	0.0	0.0
Buildings	Depn	0.0	0.0	0.0
Equipment	Return	(261)	(261)	0.0
Equipment	Depn	(1,539)	(1,539)	0.0
Total Baseline Capital Charges Saved		**(1,800)**	**(1,800)**	**0.0**

3. BASELINE CAPITAL CHARGES RETAINED:				
Land	Return	0.0	0.0	0.0
Buildings	Return	0.0	0.0	0.0
Buildings	Depn	0.0	0.0	0.0
Equipment	Return	0.0	0.0	0.0
Equipment	Depn	0.0	0.0	0.0
Total Baseline Capital Charges Saved		**0.0**	**0.0**	**0.0**

IMPACT IF PDC FUNDING FOR WORKS	SELECTED

3. CAPITAL CHARGES ON NEW EXPENDITURE

CAPITAL VALUE ADDED FOR CAPITAL CHARGES		PSC £000	MES £000	£000
LAND		0.0	0.0	0.0
WORKS		0.0	0.0	0.0
EQUIPMENT		17,959.0	0.0	0.0
TOTAL NEW AT CURRENT		17,959.0	0.0	0.0
CAPITAL CHARGES ON NEW EXPENDITURE:				
Average Works Asset Life	*Years*	*25.0*	*25.0*	*25.0*
Average Equipment Asset Life	*Years*	*9.3*	*9.3*	*10.0*
Depreciation:				
Works		0.0	0.0	0.0
Equipment		1,921.3	0.0	0.0
Total		1,921.3	0.0	0.0
Target Return:				
Land	3.50%	0.0	0.0	0.0
Works	3.50%	0.0	0.0	0.0
Equipment	3.50%	628.6	0.0	0.0
Total		628.6	0.0	0.0
New Capital Charges Total				
Land		0.0	0.0	0.0
Works		0.0	0.0	0.0
Equipment		2,549.9	0.0	0.0
Total Capital Charges on New Expenditure		**2,549.9**	**0.0**	**0.0**

CAPITAL CHARGES FORECAST	SELECTED	PSC £000	MES £000	£000
Land	Return	0.0	0.0	0.0
Buildings	Return	0.0	0.0	0.0
Buildings	Depn	0.0	0.0	0.0
Equipment	Return	628.6	0.0	0.0
Equipment	Depn	1,921.3	0.0	0.0
TOTAL CAPITAL CHARGES FORECAST		**2,549.9**	**0.0**	**0.0**

ECONOMIC APPRAISAL
PSC TAX ADJUSTMENT
SWBH NHS Trust
MES
VfM Model 15 Years - Version 3.1
30th October 2014

	PSC
Step 1: Starting Factor	2%
Step 2: Nominal Value of FM Services is likely to be less than the Capital value of the project	3%
Step 3: Greater than 50% relates to new build and the project is based upon revenue account for tax purposes	0%
Step 4: Healthcare is deemed to be a mature project sector and therefore the risk is deemed to be low	0%
Total Adjustment	5%

ECONOMIC APPRAISAL
REVENUE COSTS
SWBH NHS Trust
MES
VfM Model 15 Years - Version 3.1
30th October 2014

BASELINE	PSC 2014/15	MES 2014/15
Maintenance Staffing	**£000**	**£000**
	84	84
	84	84
	0	0
Total Maintenance Staffing	**84**	**84**
Maintenance Contracts	**£000**	**£000**
	830	830
	830	830
	0	0
Total Maintenance Contracts	**830**	**830**
Non-Pay & Consumables	**£000**	**£000**
	282	282
Total Non-Pay & Consumables	**282**	**282**
MES Rental	**£000**	**£000**
Total MES Rental	**0**	**0**
Total excluding Capital Charges	**1,196**	**1,196**
Capital Charges	**£000**	**£000**
Capital Charges	1,800	1,800
Total Capital Charges	**1,800**	**1,800**
Total Baseline	**2,996**	**2,996**

ECONOMIC APPRAISAL
REVENUE COSTS
SWBH NHS Trust
MES
VfM Model 15 Years - Version 3.1
30th October 2014

FORECAST	PSC 2016/17	MES 2016/17	
Maintenance Staffing	**£000**	**WTE**	**£000**
Rental	84		84
	84	0	84
	0		0
Total Maintenance Staffing	**84**		**84**
Maintenance Contracts	**£000**		**£000**
	1,347		
	1,347		0
	0		0
Total Maintenance Contracts	**1,347**		**0**
Non-Pay & Consumables	**£000**		**£000**
	327		327
Total Non-Pay & Consumables	**327**		**327**
MES Rental	**£000**		**£000**
			3,557
Total MES Rental	**0**		**3,557**
Total excluding Capital Charges	**1,758**		**3,968**
Capital Charges	**£000**		**£000**
Capital Charges	2,550		0
Interest on Loan			
Total Capital Charges	**2,550**		**0**
Total Forecast	**4,308**		**3,968**

ECONOMIC APPRAISAL
MES PRICING
SWBH NHS Trust
MES
VfM Model 15 Years - Version 3.1
30th October 2014

All have priced Lifecycle on just the MMH Kit

	Capital Value VAT inc	*VAT exc Memo*	MES Payment exc VAT	Indicative Split		Abated for price inputs exc VAT High	Abated for price inputs exc VAT Low	Rate per £m Capital inc VAT High £000	Rate per £m Capital inc VAT Low £000	Total Equipment Value VAT inc	*VAT enc Memo*	Total MES Payment High £000	Total MES Payment Low £000	Total MES Payment Mid £000	
Siemens	13,970,000	*11,641,667*	3,400,000	Lifecycle	42.6%	1,449,196	1,207,663								
No details				Maint	49.1%	1,670,273	1,391,894								
				Finance	8.3%	280,531	233,776								
All kit assumed at Day 1						3,400,000	2,833,333	243.4	202.8	17,959,000	*14,965,833*	4,370,838	3,642,365	4,006,601	3,642,365
GE (Excluding indexation)	13,970,000	*11,641,667*	3,148,000	Lifecycle	42.6%	1,341,785	1,118,154								
Lifecycle priced on unit costs inc VAT/Variable Life				Maint	49.1%	1,546,476	1,288,730								
Some maintenance on existing I have taken out				Finance	8.3%	259,739	216,449								
Model includes indexation which I have excluded			Average Tot/yrs			3,148,000	2,623,333	225.3	187.8	17,959,000	*14,965,833*	4,046,881	3,372,401	3,709,641	3,372,401
Asteral	13,970,000	*11,641,667*	3,481,000	Lifecycle	42.6%	1,483,721	1,236,434								
850k enabling included in pricing				Maint	49.1%	1,710,065	1,425,054								
All kit at Day 1				Finance	8.3%	287,214	239,345								
						3,481,000	2,900,833	249.2	207.6	17,959,000	*14,965,833*	4,474,966	3,729,139	4,102,052	3,729,139
Philips	13,970,000	*11,641,667*	2,710,070	Lifecycle	42.6%	1,155,124	962,603								
Lifecycle priced on variable life				Maint	49.1%	1,331,340	1,109,450								
				Finance	8.3%	223,606	186,338								
						2,710,070	2,258,392	194.0	161.7	17,959,000	*14,965,833*	3,483,905	2,903,254	3,193,579	3,483,905
											AVERAGE				3,556,952

ECONOMIC APPRAISAL

PSC EQUIPMENT LIFECYCLE

SWBH NHS Trust

MES

VfM Model 15 Years - Version 3.1

30th October 2014

						EQUIPMENT - MMH					EQUIPMENT - EXISTING							
			7	8	10	Initial	7	8	10	Total	7	8	10		7	8	10	Total
YEAR	PERIOD					MMH	Life	Life	Life	Life				Existing	Life	Life	Life	Life
						£000	£000	£000	£000	£000				£000	£000	£000	£000	£000
0	2014	2015	60	0	0	60					0	0	0	0				0
1	2015	2016	58	0	1875	1,933					0	0	471	471				0
2	2016	2017	0	0	947	947					0	0	625	625				0
3	2017	2018	190	1000	607	1,796					0	0	250	250				0
4	2018	2019	186	583	5067	5,836					0	625	292	917				0
5	2019	2020	73	0	0	73					133	0	0	133				0
6	2020	2021	117	0	0	117					333	0	292	625				0
7	2021	2022	0	0	0	0	60	0	0	60	0	0	0	0				0
8	2022	2023	0	0	1100	1,100	58	0	0	58	0	0	0	0				0
9	2023	2024	0	0	83	83	0	0	0	0	0	0	0	0				0
10	2024	2025					190	0	0	190					0	0	0	0
11	2025	2026					186	1,000	1,875	3,061					0	0	471	471
12	2026	2027					73	583	947	1,603					133	625	625	1,383
13	2027	2028					117	0	607	723					333	0	250	583
14	2028	2029					60	0	5,067	5,127					0	0	292	292
15	2029	2030					58	0	0	58					0	0	0	0
16	2030	2031					0	0	0	0					0	0	292	292
17																		
18																		
19																		
TOTAL			683	1,583	9,678	11,945	802	1,583	8,495	10,880	467	625	1,929	3,021	467	625	1,929	3,021
RV							(406)	(667)	(6,229)	(7,302)				RV	(248)	(313)	(1,310)	(1,871)

ECONOMIC APPRAISAL
ECONOMIC ANALYSIS
PSC
SWBH NHS Trust
MES
VfM Model 15 Years - Version 3.1
30th October 2014

17	YEARS APPRAISAL
3.50%	DISCOUNT RATE

YEAR	PERIOD		EQUIPMENT COSTS excluding VAT							REVENUE COSTS					TOTAL COSTS		Discount Factor 3.5%	NET PRESENT COST
			MMH	MMH Refresh	Other	Other Refresh	Residual Value		TOTAL CAPITAL	Maintenance Staffing	Maintenance Contracts	Non-Pay & Consumables	MES Rental	TOTAL REVENUE				
			£000	£000	£000		£000	£000	£000	£000	£000	£000	£000	£000	£000			£000
0	2014	2015	60	0	0	0			**60**	84	830	282	0	1,196	**1,256**	3.50%	1.0000	**1,256**
1	2015	2016	1,933	0	471	0			**2,404**	84	830	282	0	1,196	**3,600**	3.50%	0.9662	**3,478**
2	2016	2017	947	0	625	0			**1,572**	84	1,347	327	0	1,758	**3,330**	3.50%	0.9335	**3,109**
3	2017	2018	1,796	0	250	0			**2,046**	84	1,347	327	0	1,758	**3,805**	3.50%	0.9019	**3,432**
4	2018	2019	5,836	0	917	0			**6,753**	84	1,347	327	0	1,758	**8,511**	3.50%	0.8714	**7,417**
5	2019	2020	73	0	133	0			**206**	84	1,347	327	0	1,758	**1,965**	3.50%	0.8420	**1,654**
6	2020	2021	117	0	625	0			**742**	84	1,347	327	0	1,758	**2,500**	3.50%	0.8135	**2,034**
7	2021	2022	0	60	0	0			**60**	84	1,347	327	0	1,758	**1,818**	3.50%	0.7860	**1,429**
8	2022	2023	1,100	58	0	0			**1,158**	84	1,347	327	0	1,758	**2,917**	3.50%	0.7594	**2,215**
9	2023	2024	83	0	0	0			**83**	84	1,347	327	0	1,758	**1,842**	3.50%	0.7337	**1,351**
10	2024	2025	0	190	0	0			**190**	84	1,347	327	0	1,758	**1,948**	3.50%	0.7089	**1,381**
11	2025	2026	0	3,061	0	471			**3,532**	84	1,347	327	0	1,758	**5,290**	3.50%	0.6849	**3,623**
12	2026	2027	0	1,603	0	1,383			**2,986**	84	1,347	327	0	1,758	**4,745**	3.50%	0.6618	**3,140**
13	2027	2028	0	723	0	583			**1,307**	84	1,347	327	0	1,758	**3,065**	3.50%	0.6394	**1,960**
14	2028	2029	0	5,127	0	292			**5,418**	84	1,347	327	0	1,758	**7,177**	3.50%	0.6178	**4,434**
15	2029	2030	0	58	0	0			**58**	84	1,347	327	0	1,758	**1,817**	3.50%	0.5969	**1,084**
16	2030	2031	0	0	0	292	(9,172)		**(8,880)**	84	1,347	327	0	1,758	**(7,122)**	3.50%	0.5767	**(4,107)**
17									**0**	0	0	0	0	0	**0**	3.50%	0.0000	**0**
70									**0**	0	0	0	0	0	**0**	3.00%	0.0000	**0**
TOTAL			11,945	10,880	3,021	3,021	(9,172)	0	19,695	1,434	21,864	5,469	0	28,767	48,461			
NPC	17	YEARS	10,570	7,048	2,683	1,959	(5,290)	0	16,971	1,105	16,620	4,193	0	21,918				38,889.0
EAC	17	YEARS	807	538	205	150	(404)	0	1,296	84	1,269	320	0	1,674			13.0941	2,970.0

ECONOMIC APPRAISAL
ECONOMIC ANALYSIS
PSC TAX ADJUSTMENT
SWBH NHS Trust
MES
VfM Model 15 Years - Version 3.1
30th October 2014

17	YEARS APPRAISAL
3.50%	DISCOUNT RATE
5.00%	TAX ADJUSTMENT

YEAR	PERIOD		EQUIPMENT COSTS excluding VAT							REVENUE COSTS					TOTAL COSTS		Discount Factor 3.5%	NET PRESENT COST
			MMH	MMH Refresh	Other	Other Refresh	Residual Value		TOTAL CAPITAL	Maintenance Staffing	Maintenance Contracts	Non-Pay & Consumables	MES Rental	TOTAL REVENUE				
			£000	£000	£000		£000	£000	£000	£000	£000	£000	£000	£000	£000			£000
0	2014	2015	3	0	0	0	0		**3**		41			41	**44**	3.50%	1.0000	**44**
1	2015	2016	97	0	24	0	0		**120**		41			41	**162**	3.50%	0.9662	**156**
2	2016	2017	47	0	31	0	0		**79**		67			67	**146**	3.50%	0.9335	**136**
3	2017	2018	90	0	13	0	0		**102**		67			67	**170**	3.50%	0.9019	**153**
4	2018	2019	292	0	46	0	0		**338**		67			67	**405**	3.50%	0.8714	**353**
5	2019	2020	4	0	7	0	0		**10**		67			67	**78**	3.50%	0.8420	**65**
6	2020	2021	6	0	31	0	0		**37**		67			67	**104**	3.50%	0.8135	**85**
7	2021	2022	0	3	0	0	0		**3**		67			67	**70**	3.50%	0.7860	**55**
8	2022	2023	55	3	0	0	0		**58**		67			67	**125**	3.50%	0.7594	**95**
9	2023	2024	4	0	0	0	0		**4**		67			67	**72**	3.50%	0.7337	**52**
10	2024	2025	0	9	0	0	0		**9**		67			67	**77**	3.50%	0.7089	**54**
11	2025	2026	0	153	0	24	0		**177**		67			67	**244**	3.50%	0.6849	**167**
12	2026	2027	0	80	0	69	0		**149**		67			67	**217**	3.50%	0.6618	**143**
13	2027	2028	0	36	0	29	0		**65**		67			67	**133**	3.50%	0.6394	**85**
14	2028	2029	0	256	0	15	0		**271**		67			67	**338**	3.50%	0.6178	**209**
15	2029	2030	0	3	0	0	0		**3**		67			67	**70**	3.50%	0.5969	**42**
16	2030	2031	0	0	0	15	(459)		**(444)**		67			67	**(377)**	3.50%	0.5767	**(217)**
17			0	0	0	0	0		**0**		0			0	**0**	3.50%	0.0000	**0**
70									**0**					0	**0**	3.00%	0.0000	**0**
TOTAL			597	544	151	151	(459)	0	985	0	1,093	0	0	1,093	2,078			
NPC	17	YEARS	529	352	134	98	(264)	0	849	0	831	0	0	831				1,679.6
EAC	17	YEARS	40	27	10	7	(20)	0	65	0	63	0	0	63			13.0941	128.3

ECONOMIC APPRAISAL
ECONOMIC ANALYSIS
PSC TAX ADJUSTED
SWBH NHS Trust
MES
VfM Model 15 Years - Version 3.1
30th October 2014

17	YEARS APPRAISAL
3.50%	DISCOUNT RATE
5.00%	TAX ADJUSTMENT

YEAR	PERIOD		EQUIPMENT COSTS excluding VAT							REVENUE COSTS					TOTAL COSTS		Discount Factor 3.5%	NET PRESENT COST
			MMH	MMH Refresh	Other	Other Refresh	Residual Value		TOTAL CAPITAL	Maintenance Staffing	Maintenance Contracts	Non-Pay & Consumables	MES Rental	TOTAL REVENUE				
			£000	£000	£000		£000	£000	£000	£000	£000	£000	£000	£000	£000			£000
0	2014	2015	63	0	0	0	0	0	**63**	84	871	282	0	1,237	**1,300**	3.50%	1.0000	**1,300**
1	2015	2016	2,030	0	494	0	0	0	**2,524**	84	871	282	0	1,237	**3,762**	3.50%	0.9662	**3,635**
2	2016	2017	994	0	656	0	0	0	**1,650**	84	1,414	327	0	1,826	**3,476**	3.50%	0.9335	**3,245**
3	2017	2018	1,886	0	263	0	0	0	**2,149**	84	1,414	327	0	1,826	**3,974**	3.50%	0.9019	**3,585**
4	2018	2019	6,128	0	963	0	0	0	**7,090**	84	1,414	327	0	1,826	**8,916**	3.50%	0.8714	**7,770**
5	2019	2020	77	0	140	0	0	0	**217**	84	1,414	327	0	1,826	**2,042**	3.50%	0.8420	**1,720**
6	2020	2021	123	0	656	0	0	0	**779**	84	1,414	327	0	1,826	**2,604**	3.50%	0.8135	**2,119**
7	2021	2022	0	63	0	0	0	0	**63**	84	1,414	327	0	1,826	**1,889**	3.50%	0.7860	**1,484**
8	2022	2023	1,155	61	0	0	0	0	**1,216**	84	1,414	327	0	1,826	**3,042**	3.50%	0.7594	**2,310**
9	2023	2024	88	0	0	0	0	0	**88**	84	1,414	327	0	1,826	**1,913**	3.50%	0.7337	**1,404**
10	2024	2025	0	199	0	0	0	0	**199**	84	1,414	327	0	1,826	**2,025**	3.50%	0.7089	**1,435**
11	2025	2026	0	3,214	0	494	0	0	**3,708**	84	1,414	327	0	1,826	**5,534**	3.50%	0.6849	**3,790**
12	2026	2027	0	1,683	0	1,453	0	0	**3,136**	84	1,414	327	0	1,826	**4,961**	3.50%	0.6618	**3,283**
13	2027	2028	0	760	0	613	0	0	**1,372**	84	1,414	327	0	1,826	**3,198**	3.50%	0.6394	**2,045**
14	2028	2029	0	5,383	0	306	0	0	**5,689**	84	1,414	327	0	1,826	**7,515**	3.50%	0.6178	**4,643**
15	2029	2030	0	61	0	0	0	0	**61**	84	1,414	327	0	1,826	**1,887**	3.50%	0.5969	**1,126**
16	2030	2031	0	0	0	306	(9,631)	0	**(9,324)**	84	1,414	327	0	1,826	**(7,499)**	3.50%	0.5767	**(4,325)**
17			0	0	0	0	0	0	**0**	0	0	0	0	0	**0**	3.50%	0.0000	**0**
70			0	0	0	0	0	0	**0**	0	0	0	0	0	**0**	3.00%	0.0000	**0**
TOTAL			12,542	11,424	3,172	3,172	(9,631)	0	20,679	1,434	22,957	5,469	0	29,860	50,539			
NPC	17	YEARS	11,099	7,400	2,818	2,057	(5,554)	0	17,819	1,105	17,451	4,193	0	22,749				40,568.5
EAC	17	YEARS	848	565	215	157	(424)	0	1,361	84	1,333	320	0	1,737			13.0941	3,098.2

ECONOMIC APPRAISAL
ECONOMIC ANALYSIS
MES
SWBH NHS Trust
MES
VfM Model 15 Years - Version 3.1
30th October 2014

17	YEARS APPRAISAL
3.50%	DISCOUNT RATE

YEAR	PERIOD		EQUIPMENT COSTS excluding VAT							REVENUE COSTS									
			MMH	MMH Refresh	Other	Other Refresh	Residual Value		TOTAL CAPITAL	Maintenance Staffing	Maintenance Contracts	Non-Pay & Consumables	MES Rental	TOTAL REVENUE	TOTAL COSTS		Discount Factor 3.5%	NET PRESENT COST
			£000	£000	£000		£000	£000	£000	£000	£000	£000	£000	£000	£000			£000
0	2014	2015							**0**	84	841	282	0	1,207	**1,207**	3.50%	1.0000	**1,207**
1	2015	2016							**0**	84	1,279	289	0	1,652	**1,652**	3.50%	0.9662	**1,597**
2	2016	2017							**0**	84	606	294	959	1,943	**1,943**	3.50%	0.9335	**1,814**
3	2017	2018							**0**	84	493	300	1,446	2,323	**2,323**	3.50%	0.9019	**2,095**
4	2018	2019							**0**	84	134	319	2,981	3,519	**3,519**	3.50%	0.8714	**3,067**
5	2019	2020							**0**	84	123	320	3,030	3,557	**3,557**	3.50%	0.8420	**2,995**
6	2020	2021							**0**	84	82	322	3,206	3,695	**3,695**	3.50%	0.8135	**3,006**
7	2021	2022							**0**	84	82	322	3,206	3,695	**3,695**	3.50%	0.7860	**2,904**
8	2022	2023							**0**	84	21	325	3,468	3,899	**3,899**	3.50%	0.7594	**2,961**
9	2023	2024							**0**	84	0	327	3,557	3,968	**3,968**	3.50%	0.7337	**2,911**
10	2024	2025							**0**	84	0	327	3,557	3,968	**3,968**	3.50%	0.7089	**2,813**
11	2025	2026							**0**	84	0	327	3,557	3,968	**3,968**	3.50%	0.6849	**2,718**
12	2026	2027							**0**	84	0	327	3,557	3,968	**3,968**	3.50%	0.6618	**2,626**
13	2027	2028							**0**	84	0	327	3,557	3,968	**3,968**	3.50%	0.6394	**2,537**
14	2028	2029							**0**	84	0	327	3,557	3,968	**3,968**	3.50%	0.6178	**2,451**
15	2029	2030							**0**	84	0	327	3,557	3,968	**3,968**	3.50%	0.5969	**2,368**
16	2030	2031							**0**	84	0	327	3,557	3,968	**3,968**	3.50%	0.5767	**2,288**
17									**0**	0	0	0	0	0	**0**	3.50%	0.0000	**0**
TOTAL			0	0	0	0	0	0	0	1,434	3,661	5,386	46,753	57,234	57,234			
NPC	17	YEARS	0	0	0	0	0	0	0	1,105	3,454	4,121	33,679	42,358				42,358.4
EAC	17	YEARS	0	0	0	0	0	0	0	84	264	315	2,572	3,235			13.0941	3,234.9

ECONOMIC APPRAISAL
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EAC OF RISK RETAINED UNDER EACH PROCUREMENT OPTION

17 YEAR APPRAISAL	Expected Impact		Minimum Impact		Maximum Impact	
	PSC	MES	PSC	MES	PSC	MES
Risk Category	EAC	EAC	EAC	EAC	EAC	EAC
	£000	£000	£000	£000	£000	£000
Design	0.0	0.0	0.0	0.0	0.0	0.0
Construction & Development	8.1	0.0	7.0	0.0	9.2	0.0
Availability & Performance	0.0	(4.4)	0.0	(3.6)	0.0	(5.1)
Operating Cost	129.1	0.0	113.8	0.0	144.4	0.0
Termination	0.0	0.0	0.0	0.0	0.0	0.0
Technology & Obsolesence	57.6	0.0	52.5	0.0	62.0	0.0
Residual	10.4	10.4	9.3	9.3	11.4	11.4
Total	205.2	6.0	182.6	5.7	227.0	6.3

NPC OF RISK RETAINED UNDER EACH PROCUREMENT OPTION

17 YEAR APPRAISAL	Expected Impact		Minimum Impact		Maximum Impact	
	PSC	MES	PSC	MES	PSC	MES
Risk Category	NPC	NPC	NPC	NPC	NPC	NPC
	£000	£000	£000	£000	£000	£000
Design	0.0	0.0	0.0	0.0	0.0	0.0
Construction & Development	111.1	0.0	96.2	0.0	126.0	0.0
Availability & Performance	0.0	(59.7)	0.0	(49.8)	0.0	(69.7)
Operating Cost	1,761.9	0.0	1,552.9	0.0	1,971.0	0.0
Termination	0.0	0.0	0.0	0.0	0.0	0.0
Technology & Obsolesence	786.4	0.0	716.7	0.0	846.1	0.0
Residual	141.5	141.5	127.3	127.3	155.7	155.7
Total	2,800.9	81.7	2,493.0	77.5	3,098.8	86.0

VALUE of NPC of TRANSFERRED RISK AS

17 YEAR APPRAISAL	Expected Impact	Expected Impact
	PSC	MES
	£000	£000
NPC of Transferred Risk		2,719.1
NPC of Lease Payment		33,678.8
Risk NPC as % of Lease NPC		8.1%

MES	PSC
RISK ANALYSIS	Risk Scenario: Expected Impact
SWBH NHS Trust	Model Date: 30th October 2014

A	Financial Risk Area B	Risk Driver	Cost Driver C	Value Weights Impact Min D	Value Weights Impact Likely E	Value Weights Impact Max F	Value Min Impact G=D*C	Value Likely Impact H=E*C	Value Max Impact I=F*C	Probabilities Impact Min J	Probabilities Impact Likely K	Probabilities Impact Max L	Expected value when event occurs M	Time From April N	Time To March O	No. Yrs P=O-N	Probability of Event Q	Risk Value R	Risk Retained S	Discount Factor T	NPC of Risk at 3.5% U	NPC of Risk by cat'y V	EAC of Risk W	EAC of Risk by cat'y X
			£000	%	%	%	£000	£000	£000	%	%	%	£000			Yrs	%	£000	%		£000	£000	£000	£000
1	**Design**																							
1.1	Failure to design to the brief	Capital Cost	0	2.0%	10.0%	20.0%	0	0	0	25.0%	50.0%	25.0%	0	2016	2017	1	10.0%	0	100%	0.9335	0		0.00	
1.2	Failure to build to design	Capital Cost	0	2.0%	10.0%	20.0%	0	0	0	25.0%	50.0%	25.0%	0	2016	2017	1	10.0%	0	100%	0.9335	0	0.0	0.00	0.0
2	**Construction & Development**																							
2.1	Incorrect cost and time estimates	Capital Cost	0	2.0%	10.0%	20.0%	0	0	0	25.0%	50.0%	25.0%	0	2016	2017	1	20.0%	0	100%	0.9335	0		0.00	
2.2	Unforeseen ground or site conditions	Capital Cost	0	2.0%	10.0%	20.0%	0	0	0	25.0%	50.0%	25.0%	0	2016	2017	1	10.0%	0	100%	0.9335	0		0.00	
2.3	Delay in gaining access to the site	Capital Cost	0	1.0%	2.5%	5.0%	0	0	0	25.0%	50.0%	25.0%	0	2016	2017	1	10.0%	0	100%	0.9335	0		0.00	
2.4	Responsibility for maintaining on-site security & safety	Capital Cost	0	1.0%	2.5%	5.0%	0	0	0	25.0%	50.0%	25.0%	0	2016	2017	1	20.0%	0	0%	0.9335	0		0.00	
2.5	Third party claims	Capital Cost	0	1.0%	2.5%	5.0%	0	0	0	25.0%	50.0%	25.0%	0	2016	2017	1	10.0%	0	0%	0.9335	0		0.00	
2.6	Compensation events	Capital Cost	0	0.0%	5.0%	15.0%	0	0	0	25.0%	50.0%	25.0%	0	2016	2017	1	10.0%	0	100%	0.9335	0		0.00	
2.7	Delay events	Capital Cost	0	0.0%	5.0%	15.0%	0	0	0	25.0%	50.0%	25.0%	0	2016	2017	1	10.0%	0	100%	0.9335	0		0.00	
2.8	Force Majeure	Capital Cost	0	2.0%	10.0%	50.0%	0	0	0	25.0%	50.0%	25.0%	0	2016	2017	1	0.0%	0	100%	0.9335	0		0.00	
2.9	Termination due to force majeure	Capital Cost	0	2.0%	10.0%	50.0%	0	0	0	25.0%	50.0%	25.0%	0	2016	2017	1	0.0%	0	100%	0.9335	0		0.00	
2.10	Legislative and regulatory change: NHS specific	Capital Cost	0	2.0%	5.0%	10.0%	0	0	0	25.0%	50.0%	25.0%	0	2016	2017	1	10.0%	0	100%	0.9335	0		0.00	
2.11	Legislative and regulatory change: non NHS specific	Capital Cost	0	5.0%	10.0%	15.0%	0	0	0	25.0%	50.0%	25.0%	0	2016	2017	1	10.0%	0	100%	0.9335	0		0.00	
2.12	Contractor or consultant default	Capital Cost	0	1.0%	2.5%	5.0%	0	0	0	25.0%	50.0%	25.0%	0	2016	2017	1	1.0%	0	100%	0.9335	0		0.00	
2.13	Poor project management	Capital Cost	0	2.0%	10.0%	20.0%	0	0	0	25.0%	50.0%	25.0%	0	2016	2017	1	10.0%	0	100%	0.9335	0		0.00	
2.14	Contractor/sub-contractor industrial action	Capital Cost	0	2.0%	10.0%	20.0%	0	0	0	25.0%	50.0%	25.0%	0	2016	2017	1	1.0%	0	50%	0.9335	0		0.00	
2.15	Protester action	Capital Cost	0	2.0%	10.0%	20.0%	0	0	0	25.0%	50.0%	25.0%	0	2016	2017	1	1.0%	0	100%	0.9335	0		0.00	
2.16	Incorrect time and cost estimates for commissioning new build	Commissioning Budget	500	-25.0%	100.0%	300.0%	-125	500	1,500	25.0%	50.0%	25.0%	594	2016	2017	1	20.0%	119	100%	0.9335	111	111.1	8.14	8.1
3	**Availability & Performance**																							
3.1	Latent defects in new build - Capital (Post year 12 after handov	Capital Cost	0	0.0%	5.0%	10.0%	0	0	0	25.0%	50.0%	25.0%	0	2016	2029	13	10.0%	0	100%	9.9543	0		0.00	
3.2	Incorrect Estimate of Lease Payment	Lease Payment	0	-1.0%	5.0%	10.0%	0	0	0	25.0%	50.0%	25.0%	0	2016	2029	13	40.0%	0	100%	9.9543	0		0.00	
3.3	Risk of Availability & Performance Deductions	Lease Payment	0	0.0%	0.0%	0.0%	0	0	0	25.0%	50.0%	25.0%	0	2016	2029	13	50.0%	0	100%	9.9543	0	0.0	0.00	0.0
4	**Operating Cost**																							
4.1	Incorrect estimated cost of providing specific services under th	Hard FM & Lifecycle	2,492	-1.0%	5.0%	10.0%	-25	125	249	25.0%	50.0%	25.0%	118	2016	2029	13	50.0%	59	100%	9.9543	587		43.02	
4.2	Incorrect estimated cost of providing specific services under th	Hard FM & Lifecycle	2,492	-1.0%	5.0%	10.0%	-25	125	249	25.0%	50.0%	25.0%	118	2016	2029	13	50.0%	59	100%	9.9543	587		43.02	
4.3	Incorrect estimated cost of hard FM	Hard FM Costs	1,674	-1.0%	5.0%	10.0%	-17	84	167	25.0%	50.0%	25.0%	80	2016	2029	13	50.0%	40	100%	9.9543	398		29.17	
4.4	Incorrect estimated cost of lifecycle	Average Lifecycle Cost	818	-1.0%	5.0%	10.0%	-8	41	82	25.0%	50.0%	25.0%	39	2016	2029	13	50.0%	19	100%	9.9543	189	1,761.9	13.85	129.1
5	**Termination**																							
5.1	Termination due to default by the procuring entity			0.0%	0.0%	0.0%	0	0	0	25.0%	50.0%	25.0%	0	2016	2029	13	0.0%	0	100%	9.9543	0		0.00	
5.2	Default by operator leading to step-in by financiers			0.0%	0.0%	0.0%	0	0	0	25.0%	50.0%	25.0%	0	2016	2029	13	0.0%	0	100%	9.9543	0		0.00	
5.3	Termination due to default by the operator			0.0%	0.0%	0.0%	0	0	0	25.0%	50.0%	25.0%	0	2016	2029	13	0.0%	0	100%	9.9543	0	0.0	0.00	0.0
6	**Technology & Obsolesence**																							
6.1	Technological change/obsolescence of FM equipment	Capital Cost FM Equip	14,966	1.0%	5.0%	10.0%	150	748	1,497	25.0%	50.0%	25.0%	786	2016	2029	13	10.0%	79	100%	9.9543	786	786.4	57.61	57.6
7	**Residual**																							
7.1	Land	Residual Land Value	0	0.0%	-25.0%	-50.0%	0	0	0	25.0%	50.0%	25.0%	0	2028	2029	1	10.0%	0	100%	0.6178	0		0.00	
7.2	Equipment	Residual Value of Equipment	-9,172	0.0%	-25.0%	-50.0%	0	2,293	4,586	25.0%	50.0%	25.0%	2,293	2028	2029	1	10.0%	229	100%	0.6178	141	141.5	10.36	10.4
8	**Other**																							
8.1	Control of services provided under the MES agreement	Not in PSC		0.0%	0.0%	0.0%	0	0	0	25.0%	50.0%	25.0%	0	2016	2029	13	5.0%	0	100%	9.9543	0		0.00	
8.2	Management of contract	Not in PSC		0.0%	0.0%	0.0%	0	0	0	25.0%	50.0%	25.0%	0	2016	2029	13	0.0%	0	0%	9.9543	0	0.0	0.00	0.0
													4,028					604				2,800.9	205.2

MES
RISK ANALYSIS
SWBH NHS Trust

MES	
Risk Scenario: Expected Impact	
Model Date: 30th October 2014	

			Cost Driver	Value Weights			Value			Probabilities			Expected value when event occurs	Time		No. Yrs	Probability of Event	Risk Value	Risk Retained	Discount Factor	NPC of Risk at 3.5%	NPC of Risk by cat'y	EAC of Risk	EAC of Risk by cat'y
				Impact			Impact			Impact				From April	To March									
A	Financial Risk Area B	Risk Driver	C	Min D	Likely E	Max F	Min Impact G=D*C	Likely Impact H=E*C	Max Impact I=F*C	Min J	Likely K	Max L	M	N	O	P=O-N	Q	R	S	T	U	V	W	X
			£000	%	%	%	£000	£000	£000	%	%	%	£000			Yrs	%	£000	%		£000	£000	£000	£000
1	**Design**																							
1.1	Failure to design to the brief	Capital Cost	0	2.0%	10.0%	20.0%	0	0	0	25.0%	50.0%	25.0%	0	2016	2017	1	10.0%	0	0%	0.9335	0		0.00	
1.2	Failure to build to design	Capital Cost	0	2.0%	10.0%	20.0%	0	0	0	25.0%	50.0%	25.0%	0	2016	2017	1	10.0%	0	0%	0.9335	0	0.0	0.00	0.0
2	**Construction & Development**																							
2.1	Incorrect cost and time estimates	Capital Cost	0	2.0%	10.0%	20.0%	0	0	0	25.0%	50.0%	25.0%	0	2016	2017	1	25.0%	0	0%	0.9335	0		0.00	
2.2	Unforeseen ground or site conditions	Capital Cost	0	2.0%	10.0%	20.0%	0	0	0	25.0%	50.0%	25.0%	0	2016	2017	1	10.0%	0	0%	0.9335	0		0.00	
2.3	Delay in gaining access to the site	Capital Cost	0	1.0%	2.5%	5.0%	0	0	0	25.0%	50.0%	25.0%	0	2016	2017	1	10.0%	0	100%	0.9335	0		0.00	
2.4	Responsibility for maintaining on-site security & safety	Capital Cost	0	1.0%	2.5%	5.0%	0	0	0	25.0%	50.0%	25.0%	0	2016	2017	1	20.0%	0	0%	0.9335	0		0.00	
2.5	Third party claims	Capital Cost	0	1.0%	2.5%	5.0%	0	0	0	25.0%	50.0%	25.0%	0	2016	2017	1	10.0%	0	0%	0.9335	0		0.00	
2.6	Compensation events	Capital Cost	0	0.0%	5.0%	15.0%	0	0	0	25.0%	50.0%	25.0%	0	2016	2017	1	10.0%	0	100%	0.9335	0		0.00	
2.7	Delay events	Capital Cost	0	0.0%	5.0%	15.0%	0	0	0	25.0%	50.0%	25.0%	0	2016	2017	1	10.0%	0	50%	0.9335	0		0.00	
2.8	Force Majeure	Capital Cost	0	2.0%	10.0%	50.0%	0	0	0	25.0%	50.0%	25.0%	0	2016	2017	1	0.0%	0	50%	0.9335	0		0.00	
2.9	Termination due to force majeure	Capital Cost	0	2.0%	10.0%	50.0%	0	0	0	25.0%	50.0%	25.0%	0	2016	2017	1	0.0%	0	50%	0.9335	0		0.00	
2.10	Legislative and regulatory change: NHS specific	Capital Cost	0	2.0%	5.0%	10.0%	0	0	0	25.0%	50.0%	25.0%	0	2016	2017	1	10.0%	0	100%	0.9335	0		0.00	
2.11	Legislative and regulatory change: non NHS specific	Capital Cost	0	5.0%	10.0%	15.0%	0	0	0	25.0%	50.0%	25.0%	0	2016	2017	1	15.0%	0	0%	0.9335	0		0.00	
2.12	Contractor or consultant default	Capital Cost	0	1.0%	2.5%	5.0%	0	0	0	25.0%	50.0%	25.0%	0	2016	2017	1	1.0%	0	0%	0.9335	0		0.00	
2.13	Poor project management	Capital Cost	0	2.0%	10.0%	20.0%	0	0	0	25.0%	50.0%	25.0%	0	2016	2017	1	10.0%	0	0%	0.9335	0		0.00	
2.14	Contractor/sub-contractor industrial action	Capital Cost	0	2.0%	10.0%	20.0%	0	0	0	25.0%	50.0%	25.0%	0	2016	2017	1	1.0%	0	0%	0.9335	0		0.00	
2.15	Protester action	Capital Cost	0	2.0%	10.0%	20.0%	0	0	0	25.0%	50.0%	25.0%	0	2016	2017	1	1.0%	0	50%	0.9335	0		0.00	
2.16	Incorrect time and cost estimates for commissioning new buil	Commissioning Budget	500	-25.0%	100.0%	300.0%	-125	500	1,500	25.0%	50.0%	25.0%	594	2016	2017	1	20.0%	119	0%	0.9335	0	0.0	0.00	0.0
3	**Availability & Performance**																							
3.1	Latent defects in new build - Capital (Post year 12 after hando	Capital Cost	0	0.0%	5.0%	10.0%	0	0	0	25.0%	50.0%	25.0%	0	2028	2029	1	10.0%	0	0%	0.6178	0		0.00	
3.2	Incorrect Estimate of Lease Payment	Lease Payment	3,557	-2.0%	2.0%	5.0%	-71	71	178	25.0%	50.0%	25.0%	62	2016	2029	13	40.0%	25	100%	9.9543	249		18.23	
3.3	Risk of Availability & Performance Deductions	Lease Payment	3,557	2.0%	-2.0%	-5.0%	71	-71	-178	25.0%	50.0%	25.0%	-62	2016	2029	13	50.0%	-31	100%	9.9543	-309	-59.7	-22.60	-4.4
4	**Operating Cost**																							
4.1	Incorrect estimated cost of providing specific services under th	Hard FM & Lifecycle	-9,172	-1.0%	5.0%	10.0%	92	-459	-917	25.0%	50.0%	25.0%	-436	2016	2029	13	50.0%	-218	0%	9.9543	0		0.00	
4.2	Incorrect estimated cost of providing specific services under th	Hard FM & Lifecycle	-9,172	-1.0%	5.0%	10.0%	92	-459	-917	25.0%	50.0%	25.0%	-436	2016	2029	13	50.0%	-218	0%	9.9543	0		0.00	
4.3	Incorrect estimated cost of hard FM	Hard FM Costs	0	-1.0%	5.0%	10.0%	0	0	0	25.0%	50.0%	25.0%	0	2016	2029	13	50.0%	0	0%	9.9543	0		0.00	
4.4	Incorrect estimated cost of lifecycle	Average Lifecycle Cost	-9,172	-1.0%	5.0%	10.0%	92	-459	-917	25.0%	50.0%	25.0%	-436	2016	2029	13	50.0%	-218	0%	9.9543	0	0.0	0.00	0.0
5	**Termination**																							
5.1	Termination due to default by the procuring entity		3,557	0.0%	0.0%	0.0%	0	0	0	25.0%	50.0%	25.0%	0	2016	2029	13	1.0%	0	100%	9.9543	0		0.00	
5.2	Default by operator leading to step-in by financiers		3,557	0.0%	0.0%	0.0%	0	0	0	25.0%	50.0%	25.0%	0	2016	2029	13	1.0%	0	0%	9.9543	0		0.00	
5.3	Termination due to default by the operator		3,557	0.0%	0.0%	0.0%	0	0	0	25.0%	50.0%	25.0%	0	2016	2029	13	1.0%	0	0%	9.9543	0	0.0	0.00	0.0
6	**Technology & Obsolesence**																							
6.1	Technological change/obsolescence of FM equipment	Capital Cost FM Equip	14,966	1.0%	5.0%	10.0%	150	748	1,497	25.0%	50.0%	25.0%	786	2016	2029	13	10.0%	79	0%	9.9543	0	0.0	0.00	0.0
7	**Residual**																							
7.1	Land	Residual Land Value	0	0.0%	-25.0%	-50.0%	0	0	0	25.0%	50.0%	25.0%	0	2028	2029	1	10.0%	0	100%	0.6178	0		0.00	
7.2	Equipment	Residual Value of Equipment	-9,172	0.0%	-25.0%	-50.0%	0	2,293	4,586	25.0%	50.0%	25.0%	2,293	2028	2029	1	10.0%	229	100%	0.6178	141	141.5	10.36	10.4
8	**Other**																							
8.1	Control of services provided under the MES agreement	Not in PSC	-9,172	0.1%	0.3%	0.6%	-9	-28	-55	25.0%	50.0%	25.0%	-30	2016	2029	13	5.0%	-1	0%		0		0.00	
8.2	Management of contract	Not in PSC	100	0.0%	5.0%	10.0%	0	5	10	25.0%	50.0%	25.0%	5	2016	2029	13	0.0%	0	100%	9.9543	0	0.0	0.00	0.0
													2,341					**-234**				**81.7**		**6.0**

SWBH NHS Trust

MES

MODEL VERSION: VfM Model 10 Years - Version 3.1

MODEL DATE: 30th October 2014

ECONOMIC APPRAISAL
OUTPUTS SUMMARY
SWBH NHS Trust
MES
VfM Model 10 Years - Version 3.1
30th October 2014

1.0	**RECURRENT REVENUE IMPACT**	PSC	MES
	NET REVENUE CHANGE at 2014/15 prices	*£000*	*£000*
1.1	*Baseline Year: 2014/15*		
	Maintenance Staffing	84	84
	Maintenance Contracts	830	830
	Non-Pay & Consumables	282	282
	MES Rental	0	0
	Capital Charges	1,800	1,800
	Revenue Expenditure	2,996	2,996
1.2	*Forecast Year*	2016/17	2016/17
	Maintenance Staffing	84	84
	Maintenance Contracts	1,347	0
	Non-Pay & Consumables	327	327
	MES Rental	0	3,557
	Capital Charges	2,550	0
	Revenue Expenditure	4,308	3,968
1.3	*Forecast: Change*		
	Maintenance Staffing	0	0
	Maintenance Contracts	517	(830)
	Non-Pay & Consumables	45	45
	MES Rental	0	3,557
	Capital Charges	749	(1,800)
	Net Expenditure Change	1,312	972

2.0	**ECONOMIC IMPACT**	PSC	MES
	APPRAISAL PERIOD (YEARS)	*12*	*12*
		£000	*£000*
2.1	**Base Impact excluding Risk**		
	Net Present Cost (NPC)	30,277	30,087
	Equivalent Annual Cost (EAC)	3,027	3,008
	Economic Ranking of Development Options: Base Impact excluding Risk	***2***	***1***
2.2	**Impact of Risk**		
	Net Present Cost (NPC)	1,668	50
	Equivalent Annual Cost (EAC)	156	5
	Economic Ranking of Options: Impact of Risk	***2***	***1***
2.3	**Economic Impact including Risk**		
	Net Present Cost (NPC)	31,945	30,137
	Equivalent Annual Cost (EAC)	3,184	3,013
	Economic Ranking of Development Options	***2***	***1***
	MARGINAL EAC IMPACT OVER OPTION RANKED 1	171	0
	EAC SWITCH VALUES	(171)	171

3.0	**ECONOMIC SENSITIVITY - Change in Costs required to trigger switch values**	PSC	MES
		£000	*£000*
3.1	**Capital Costs**		
	Baseline Capital Costs		
	Flexed Capital Costs		
	Change required		
	Change %		
3.2	**Revenue Costs**	*Revenue*	*Rental*
	Baseline MES Rental		3,557
	Flexed MES Rental		3,854
	Change required		297
	Change %		8.3%

ECONOMIC APPRAISAL
VfM SUMMARY OUTPUTS
SWBH NHS Trust
MES
VfM Model 10 Years - Version 3.1
30th October 2014

OPTION		MMH	MMH Refresh	Other	Other Refresh	Residual Value	0	TOTAL CAPITAL	REVENUE COSTS: Maintenance Staffing	Maintenance Contracts	Non-Pay & Consumables	MES Rental	TOTAL REVENUE	RISK EAC	TOTAL COSTS	
		£000	£000	£000	£000	£000	£000	£000	£000	£000	£000	£000	£000	£000	£000	
PSC	12 Yrs															
RANK	2															
CASH		12,542	3,537	3,172	494	(5,138)	0	**14,607**	1,012	15,886	3,834	0	20,732		**35,339**	TRUE
NPC	10.0016	11,099	2,438	2,818	339	(3,520)	0	**13,174**	844	13,078	3,182	0	17,103		**30,277**	TRUE
EAC	*TRUE*	1,110	244	282	34	(352)	0	**1,317**	84	1,308	318	0	1,710		**3,027**	TRUE
EAC	*RISK*													156	**3,184**	TRUE
MES	12 Yrs															
RANK	1															
CASH		0	0	0	0	0	0	**0**	1,012	3,661	3,753	28,968	37,394		**37,394**	TRUE
NPC	10.0016	0	0	0	0	0	0	**0**	844	3,454	3,111	22,678	30,087		**30,087**	TRUE
EAC	*TRUE*	0	0	0	0	0	0	**0**	84	345	311	2,267	3,008		**3,008**	TRUE
EAC	*RISK*													5	**3,013**	TRUE

EAC MARGINS OVER VfM PREFERRED OPTION			MMH	MMH Refresh	Other	Other Refresh	Residual Value	0	TOTAL CAPITAL	Maintenance Staffing	Maintenance Contracts	Non-Pay & Consumables	MES Rental	TOTAL REVENUE	RISK EAC	TOTAL COSTS
MES	1	EAC	0	0	0	0	0	0	**0**	84	345	311	2,267	**3,008**	5	**3,013**
PSC	2	EAC	1,110	244	282	34	(352)	0	**1,317**	84	1,308	318	0	**1,710**	156	**3,184**
EAC Margin			1,110	244	282	34	(352)	0	**1,317**	0	962	7	(2,267)	**(1,298)**	152	**171**

ECONOMIC APPRAISAL
CAPITAL CHARGES ANALYSIS - SUMMARY
SWBH NHS Trust
MES
VfM Model 10 Years - Version 3.1
30th October 2014

CAPITAL CHARGES SUMMARY		PSC £000	MES £000	£000
1. BASELINE CAPITAL CHARGES:				
Land	Return	0.0	0.0	0.0
Buildings	Return	0.0	0.0	0.0
Buildings	Depn	0.0	0.0	0.0
Equipment	Return	261.5	261.5	0.0
Equipment	Depn	1,539.0	1,539.0	0.0
Total Baseline Capital Charges		**1,800.5**	**1,800.5**	**0.0**

2. BASELINE CAPITAL CHARGES SAVED:				
Land	Return	0.0	0.0	0.0
Buildings	Return	0.0	0.0	0.0
Buildings	Depn	0.0	0.0	0.0
Equipment	Return	(261)	(261)	0.0
Equipment	Depn	(1,539)	(1,539)	0.0
Total Baseline Capital Charges Saved		**(1,800)**	**(1,800)**	**0.0**

3. BASELINE CAPITAL CHARGES RETAINED:				
Land	Return	0.0	0.0	0.0
Buildings	Return	0.0	0.0	0.0
Buildings	Depn	0.0	0.0	0.0
Equipment	Return	0.0	0.0	0.0
Equipment	Depn	0.0	0.0	0.0
Total Baseline Capital Charges Saved		**0.0**	**0.0**	**0.0**

IMPACT IF PDC FUNDING FOR WORKS	SELECTED

3. CAPITAL CHARGES ON NEW EXPENDITURE

CAPITAL VALUE ADDED FOR CAPITAL CHARGES		PSC £000	MES £000	£000
LAND		0.0	0.0	0.0
WORKS		0.0	0.0	0.0
EQUIPMENT		17,959.0	0.0	0.0
TOTAL NEW AT CURRENT		17,959.0	0.0	0.0
CAPITAL CHARGES ON NEW EXPENDITURE:				
Average Works Asset Life	*Years*	*25.0*	*25.0*	*25.0*
Average Equipment Asset Life	*Years*	*9.3*	*9.3*	*10.0*
Depreciation:				
Works		0.0	0.0	0.0
Equipment		1,921.3	0.0	0.0
Total		1,921.3	0.0	0.0
Target Return:				
Land	3.50%	0.0	0.0	0.0
Works	3.50%	0.0	0.0	0.0
Equipment	3.50%	628.6	0.0	0.0
Total		628.6	0.0	0.0
New Capital Charges Total				
Land		0.0	0.0	0.0
Works		0.0	0.0	0.0
Equipment		2,549.9	0.0	0.0
Total Capital Charges on New Expenditure		**2,549.9**	**0.0**	**0.0**

CAPITAL CHARGES FORECAST	SELECTED	PSC £000	MES £000	£000
Land	Return	0.0	0.0	0.0
Buildings	Return	0.0	0.0	0.0
Buildings	Depn	0.0	0.0	0.0
Equipment	Return	628.6	0.0	0.0
Equipment	Depn	1,921.3	0.0	0.0
TOTAL CAPITAL CHARGES FORECAST		**2,549.9**	**0.0**	**0.0**

ECONOMIC APPRAISAL
PSC TAX ADJUSTMENT
SWBH NHS Trust
MES
VfM Model 10 Years - Version 3.1
30th October 2014

	PSC
Step 1: Starting Factor	2%
Step 2: Nominal Value of FM Services is likely to be less than the Capital value of the project	3%
Step 3: Greater than 50% relates to new build and the project is based upon revenue account for tax purposes	0%
Step 4: Healthcare is deemed to be a mature project sector and therefore the risk is deemed to be low	0%
Total Adjustment	5%

ECONOMIC APPRAISAL
REVENUE COSTS
SWBH NHS Trust
MES
VfM Model 10 Years - Version 3.1
30th October 2014

BASELINE	PSC 2014/15	MES 2014/15
Maintenance Staffing	**£000**	**£000**
	84	84
	84	84
	0	0
Total Maintenance Staffing	**84**	**84**
Maintenance Contracts	**£000**	**£000**
	830	830
	830	830
	0	0
Total Maintenance Contracts	**830**	**830**
Non-Pay & Consumables	**£000**	**£000**
	282	282
Total Non-Pay & Consumables	**282**	**282**
MES Rental	**£000**	**£000**
Total MES Rental	**0**	**0**
Total excluding Capital Charges	**1,196**	**1,196**
Capital Charges	**£000**	**£000**
Capital Charges	1,800	1,800
Total Capital Charges	**1,800**	**1,800**
Total Baseline	**2,996**	**2,996**

ECONOMIC APPRAISAL
REVENUE COSTS
SWBH NHS Trust
MES
VfM Model 10 Years - Version 3.1
30th October 2014

FORECAST	PSC 2016/17	MES 2016/17	
Maintenance Staffing	**£000**	**WTE**	**£000**
Rental	84		84
	84	0	84
	0		0
Total Maintenance Staffing	**84**		**84**
Maintenance Contracts	**£000**		**£000**
	1,347		
	1,347		0
	0		0
Total Maintenance Contracts	**1,347**		**0**
Non-Pay & Consumables	**£000**		**£000**
	327		327
Total Non-Pay & Consumables	**327**		**327**
MES Rental	**£000**		**£000**
			3,557
Total MES Rental	**0**		**3,557**
Total excluding Capital Charges	**1,758**		**3,968**
Capital Charges	**£000**		**£000**
Capital Charges	2,550		0
Interest on Loan			
Total Capital Charges	**2,550**		**0**
Total Forecast	**4,308**		**3,968**

ECONOMIC APPRAISAL
MES PRICING
SWBH NHS Trust
MES
VfM Model 10 Years - Version 3.1
30th October 2014

All have priced Lifecycle on just the MMH Kit

	Capital Value VAT inc	*VAT exc Memo*	MES Payment exc VAT	Indicative Split		Abated for price inputs exc VAT High	Abated for price inputs exc VAT Low	Rate per £m Capital inc VAT High £000	Rate per £m Capital inc VAT Low £000	Total Equipment Value VAT inc	*VAT enc Memo*	Total MES Payment High £000	Total MES Payment Low £000	Total MES Payment Mid £000	
Siemens	13,970,000	*11,641,667*	3,400,000	Lifecycle	42.6%	1,449,196	1,207,663								
No details				Maint	49.1%	1,670,273	1,391,894								
				Finance	8.3%	280,531	233,776								
All kit assumed at Day 1						3,400,000	2,833,333	243.4	202.8	17,959,000	*14,965,833*	4,370,838	3,642,365	4,006,601	3,642,365
GE (Excluding indexation)	13,970,000	*11,641,667*	3,148,000	Lifecycle	42.6%	1,341,785	1,118,154								
Lifecycle priced on unit costs inc VAT/Variable Life				Maint	49.1%	1,546,476	1,288,730								
Some maintenance on existing I have taken out				Finance	8.3%	259,739	216,449								
Model includes indexation which I have excluded			Average Tot/yrs			3,148,000	2,623,333	225.3	187.8	17,959,000	*14,965,833*	4,046,881	3,372,401	3,709,641	3,372,401
Asteral	13,970,000	*11,641,667*	3,481,000	Lifecycle	42.6%	1,483,721	1,236,434								
850k enabling included in pricing				Maint	49.1%	1,710,065	1,425,054								
All kit at Day 1				Finance	8.3%	287,214	239,345								
						3,481,000	2,900,833	249.2	207.6	17,959,000	*14,965,833*	4,474,966	3,729,139	4,102,052	3,729,139
Philips	13,970,000	*11,641,667*	2,710,070	Lifecycle	42.6%	1,155,124	962,603								
Lifecycle priced on variable life				Maint	49.1%	1,331,340	1,109,450								
				Finance	8.3%	223,606	186,338								
						2,710,070	2,258,392	194.0	161.7	17,959,000	*14,965,833*	3,483,905	2,903,254	3,193,579	3,483,905
											AVERAGE				3,556,952

ECONOMIC APPRAISAL

PSC EQUIPMENT LIFECYCLE

SWBH NHS Trust

MES

VfM Model 10 Years - Version 3.1

30th October 2014

						EQUIPMENT - MMH					EQUIPMENT - EXISTING						
			7	8	10	Initial	7	8	10	Total	7	8	10		7	8	10	Total
YEAR	PERIOD					MMH	Life	Life	Life	Life				Existing	Life	Life	Life	Life
						£000	£000	£000	£000	£000				£000	£000	£000	£000	£000
0	2014	2015	60	0	0	60					0	0	0	0				0
1	2015	2016	58	0	1875	1,933					0	0	471	471				0
2	2016	2017	0	0	947	947					0	0	625	625				0
3	2017	2018	190	1000	607	1,796					0	0	250	250				0
4	2018	2019	186	583	5067	5,836					0	625	292	917				0
5	2019	2020	73	0	0	73					133	0	0	133				0
6	2020	2021	117	0	0	117					333	0	292	625				0
7	2021	2022	0	0	0	0	60	0	0	60	0	0	0	0				0
8	2022	2023	0	0	1100	1,100	58	0	0	58	0	0	0	0				0
9	2023	2024	0	0	83	83	0	0	0	0	0	0	0	0				0
10	2024	2025					190	0	0	190					0	0	0	0
11	2025	2026					186	1,000	1,875	3,061					0	0	471	471
12																		
13																		
14																		
15																		
16																		
17																		
18																		
19																		
TOTAL			683	1,583	9,678	11,945	494	1,000	1,875	3,369	467	625	1,929	3,021	0	0	471	471
RV							(451)	(1,000)	(2,712)	(4,163)				RV	(114)	0	(617)	(731)

ECONOMIC APPRAISAL
ECONOMIC ANALYSIS
PSC
SWBH NHS Trust
MES
VfM Model 10 Years - Version 3.1
30th October 2014

12	YEARS APPRAISAL
3.50%	DISCOUNT RATE

YEAR	PERIOD		EQUIPMENT COSTS excluding VAT							REVENUE COSTS					TOTAL COSTS		Discount Factor 3.5%	NET PRESENT COST
			MMH	MMH Refresh	Other	Other Refresh	Residual Value		TOTAL CAPITAL	Maintenance Staffing	Maintenance Contracts	Non-Pay & Consumables	MES Rental	TOTAL REVENUE				
			£000	£000	£000		£000	£000	£000	£000	£000	£000	£000	£000	£000			£000
0	2014	2015	60	0	0	0			**60**	84	830	282	0	1,196	**1,256**	3.50%	1.0000	**1,256**
1	2015	2016	1,933	0	471	0			**2,404**	84	830	282	0	1,196	**3,600**	3.50%	0.9662	**3,478**
2	2016	2017	947	0	625	0			**1,572**	84	1,347	327	0	1,758	**3,330**	3.50%	0.9335	**3,109**
3	2017	2018	1,796	0	250	0			**2,046**	84	1,347	327	0	1,758	**3,805**	3.50%	0.9019	**3,432**
4	2018	2019	5,836	0	917	0			**6,753**	84	1,347	327	0	1,758	**8,511**	3.50%	0.8714	**7,417**
5	2019	2020	73	0	133	0			**206**	84	1,347	327	0	1,758	**1,965**	3.50%	0.8420	**1,654**
6	2020	2021	117	0	625	0			**742**	84	1,347	327	0	1,758	**2,500**	3.50%	0.8135	**2,034**
7	2021	2022	0	60	0	0			**60**	84	1,347	327	0	1,758	**1,818**	3.50%	0.7860	**1,429**
8	2022	2023	1,100	58	0	0			**1,158**	84	1,347	327	0	1,758	**2,917**	3.50%	0.7594	**2,215**
9	2023	2024	83	0	0	0			**83**	84	1,347	327	0	1,758	**1,842**	3.50%	0.7337	**1,351**
10	2024	2025	0	190	0	0			**190**	84	1,347	327	0	1,758	**1,948**	3.50%	0.7089	**1,381**
11	2025	2026	0	3,061	0	471	(4,894)		**(1,362)**	84	1,347	327	0	1,758	**396**	3.50%	0.6849	**271**
12									**0**	0	0	0	0	0	**0**	3.50%	0.0000	**0**
TOTAL			11,945	3,369	3,021	471	(4,894)	0	13,912	1,012	15,129	3,834	0	19,975	33,887			
NPC	12	YEARS	10,570	2,322	2,683	322	(3,352)	0	12,546	844	12,455	3,182	0	16,480				29,026.7
EAC	12	YEARS	1,057	232	268	32	(335)	0	1,254	84	1,245	318	0	1,648			10.0016	2,902.2

ECONOMIC APPRAISAL
ECONOMIC ANALYSIS
PSC TAX ADJUSTMENT
SWBH NHS Trust
MES
VfM Model 10 Years - Version 3.1
30th October 2014

12	YEARS APPRAISAL
3.50%	DISCOUNT RATE
5.00%	TAX ADJUSTMENT

YEAR	PERIOD		EQUIPMENT COSTS excluding VAT							REVENUE COSTS					TOTAL COSTS		Discount Factor 3.5%	NET PRESENT COST
			MMH	MMH Refresh	Other	Other Refresh	Residual Value		TOTAL CAPITAL	Maintenance Staffing	Maintenance Contracts	Non-Pay & Consumables	MES Rental	TOTAL REVENUE				
			£000	£000	£000		£000	£000	£000	£000	£000	£000	£000	£000	£000			£000
0	2014	2015	3	0	0	0	0		**3**		41			41	**44**	3.50%	1.0000	**44**
1	2015	2016	97	0	24	0	0		**120**		41			41	**162**	3.50%	0.9662	**156**
2	2016	2017	47	0	31	0	0		**79**		67			67	**146**	3.50%	0.9335	**136**
3	2017	2018	90	0	13	0	0		**102**		67			67	**170**	3.50%	0.9019	**153**
4	2018	2019	292	0	46	0	0		**338**		67			67	**405**	3.50%	0.8714	**353**
5	2019	2020	4	0	7	0	0		**10**		67			67	**78**	3.50%	0.8420	**65**
6	2020	2021	6	0	31	0	0		**37**		67			67	**104**	3.50%	0.8135	**85**
7	2021	2022	0	3	0	0	0		**3**		67			67	**70**	3.50%	0.7860	**55**
8	2022	2023	55	3	0	0	0		**58**		67			67	**125**	3.50%	0.7594	**95**
9	2023	2024	4	0	0	0	0		**4**		67			67	**72**	3.50%	0.7337	**52**
10	2024	2025	0	9	0	0	0		**9**		67			67	**77**	3.50%	0.7089	**54**
11	2025	2026	0	153	0	24	(245)		**(68)**		67			67	**(1)**	3.50%	0.6849	**(1)**
12			0	0	0	0	0		**0**		0			0	**0**	3.50%	0.0000	**0**
TOTAL			597	168	151	24	(245)	0	696	0	756	0	0	756	1,452			
NPC	12	YEARS	529	116	134	16	(168)	0	627	0	623	0	0	623				1,250.1
EAC	12	YEARS	53	12	13	2	(17)	0	63	0	62	0	0	62			10.0016	125.0

ECONOMIC APPRAISAL
ECONOMIC ANALYSIS
PSC TAX ADJUSTED
SWBH NHS Trust
MES
VfM Model 10 Years - Version 3.1
30th October 2014

12	YEARS APPRAISAL
3.50%	DISCOUNT RATE
5.00%	TAX ADJUSTMENT

YEAR	PERIOD		EQUIPMENT COSTS excluding VAT							REVENUE COSTS					TOTAL COSTS		Discount Factor 3.5%	NET PRESENT COST
			MMH	MMH Refresh	Other	Other Refresh	Residual Value		TOTAL CAPITAL	Maintenance Staffing	Maintenance Contracts	Non-Pay & Consumables	MES Rental	TOTAL REVENUE				
			£000	£000	£000		£000	£000	£000	£000	£000	£000	£000	£000	£000			
0	2014	2015	63	0	0	0	0	0	**63**	84	871	282	0	1,237	**1,300**	3.50%	1.0000	**1,300**
1	2015	2016	2,030	0	494	0	0	0	**2,524**	84	871	282	0	1,237	**3,762**	3.50%	0.9662	**3,635**
2	2016	2017	994	0	656	0	0	0	**1,650**	84	1,414	327	0	1,826	**3,476**	3.50%	0.9335	**3,245**
3	2017	2018	1,886	0	263	0	0	0	**2,149**	84	1,414	327	0	1,826	**3,974**	3.50%	0.9019	**3,585**
4	2018	2019	6,128	0	963	0	0	0	**7,090**	84	1,414	327	0	1,826	**8,916**	3.50%	0.8714	**7,770**
5	2019	2020	77	0	140	0	0	0	**217**	84	1,414	327	0	1,826	**2,042**	3.50%	0.8420	**1,720**
6	2020	2021	123	0	656	0	0	0	**779**	84	1,414	327	0	1,826	**2,604**	3.50%	0.8135	**2,119**
7	2021	2022	0	63	0	0	0	0	**63**	84	1,414	327	0	1,826	**1,889**	3.50%	0.7860	**1,484**
8	2022	2023	1,155	61	0	0	0	0	**1,216**	84	1,414	327	0	1,826	**3,042**	3.50%	0.7594	**2,310**
9	2023	2024	88	0	0	0	0	0	**88**	84	1,414	327	0	1,826	**1,913**	3.50%	0.7337	**1,404**
10	2024	2025	0	199	0	0	0	0	**199**	84	1,414	327	0	1,826	**2,025**	3.50%	0.7089	**1,435**
11	2025	2026	0	3,214	0	494	(5,138)	0	**(1,430)**	84	1,414	327	0	1,826	**395**	3.50%	0.6849	**271**
12			0	0	0	0	0	0	**0**	0	0	0	0	0	**0**	3.50%	0.0000	**0**
TOTAL			12,542	3,537	3,172	494	(5,138)	0	14,607	1,012	15,886	3,834	0	20,732	35,339			
NPC	12	YEARS	11,099	2,438	2,818	339	(3,520)	0	13,174	844	13,078	3,182	0	17,103				30,276.8
EAC	12	YEARS	1,110	244	282	34	(352)	0	1,317	84	1,308	318	0	1,710			10.0016	3,027.2

ECONOMIC APPRAISAL
ECONOMIC ANALYSIS
MES
SWBH NHS Trust
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30th October 2014

12	YEARS APPRAISAL
3.50%	DISCOUNT RATE

YEAR	PERIOD		EQUIPMENT COSTS excluding VAT						REVENUE COSTS					TOTAL COSTS		Discount Factor 3.5%	NET PRESENT COST
			MMH	MMH Refresh	Other	Other Refresh	Residual Value	TOTAL CAPITAL	Maintenance Staffing	Maintenance Contracts	Non-Pay & Consumables	MES Rental	TOTAL REVENUE				
			£000	£000	£000		£000	£000	£000	£000	£000	£000	£000	£000			£000
0	2014	2015						**0**	84	841	282	0	1,207	**1,207**	3.50%	1.0000	**1,207**
1	2015	2016						**0**	84	1,279	289	0	1,652	**1,652**	3.50%	0.9662	**1,597**
2	2016	2017						**0**	84	606	294	959	1,943	**1,943**	3.50%	0.9335	**1,814**
3	2017	2018						**0**	84	493	300	1,446	2,323	**2,323**	3.50%	0.9019	**2,095**
4	2018	2019						**0**	84	134	319	2,981	3,519	**3,519**	3.50%	0.8714	**3,067**
5	2019	2020						**0**	84	123	320	3,030	3,557	**3,557**	3.50%	0.8420	**2,995**
6	2020	2021						**0**	84	82	322	3,206	3,695	**3,695**	3.50%	0.8135	**3,006**
7	2021	2022						**0**	84	82	322	3,206	3,695	**3,695**	3.50%	0.7860	**2,904**
8	2022	2023						**0**	84	21	325	3,468	3,899	**3,899**	3.50%	0.7594	**2,961**
9	2023	2024						**0**	84	0	327	3,557	3,968	**3,968**	3.50%	0.7337	**2,911**
10	2024	2025						**0**	84	0	327	3,557	3,968	**3,968**	3.50%	0.7089	**2,813**
11	2025	2026						**0**	84	0	327	3,557	3,968	**3,968**	3.50%	0.6849	**2,718**
12								**0**	0	0	0	0	0	**0**	3.50%	0.0000	**0**
TOTAL			0	0	0	0	0	0	1,012	3,661	3,753	28,968	37,394	37,394			
NPC	12	YEARS	0	0	0	0	0	0	844	3,454	3,111	22,678	30,087				30,087.2
EAC	12	YEARS	0	0	0	0	0	0	84	345	311	2,267	3,008			10.0016	3,008.3

ECONOMIC APPRAISAL
ECONOMIC ANALYSIS
RISK ASSESSMENT
SWBH NHS Trust
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EAC OF RISK RETAINED UNDER EACH PROCUREMENT OPTION

12 YEAR APPRAISAL	Expected Impact		Minimum Impact		Maximum Impact	
	PSC	MES	PSC	MES	PSC	MES
Risk Category	EAC	EAC	EAC	EAC	EAC	EAC
	£000	£000	£000	£000	£000	£000
Design	0.0	0.0	0.0	0.0	0.0	0.0
Construction & Development	10.4	0.0	9.0	0.0	11.8	0.0
Availability & Performance	0.0	(3.7)	0.0	(3.1)	0.0	(4.4)
Operating Cost	88.4	0.0	78.5	0.0	98.4	0.0
Termination	0.0	0.0	0.0	0.0	0.0	0.0
Technology & Obsolesence	49.2	0.0	44.8	0.0	52.9	0.0
Residual	8.4	8.4	7.6	7.6	9.3	9.3
Total	156.5	4.7	139.9	4.5	172.5	4.9

NPC OF RISK RETAINED UNDER EACH PROCUREMENT OPTION

12 YEAR APPRAISAL	Expected Impact		Minimum Impact		Maximum Impact	
	PSC	MES	PSC	MES	PSC	MES
Risk Category	NPC	NPC	NPC	NPC	NPC	NPC
	£000	£000	£000	£000	£000	£000
Design	0.0	0.0	0.0	0.0	0.0	0.0
Construction & Development	111.1	0.0	96.2	0.0	126.0	0.0
Availability & Performance	0.0	(39.8)	0.0	(33.2)	0.0	(46.5)
Operating Cost	943.1	0.0	836.8	0.0	1,049.4	0.0
Termination	0.0	0.0	0.0	0.0	0.0	0.0
Technology & Obsolesence	524.7	0.0	478.2	0.0	564.5	0.0
Residual	89.5	89.5	80.7	80.7	99.1	99.1
Total	1,668.4	49.7	1,491.9	47.5	1,839.0	52.6

VALUE of NPC of TRANSFERRED RISK AS

12 YEAR APPRAISAL	Expected Impact	Expected Impact
	PSC	MES
	£000	£000
NPC of Transferred Risk		1,618.7
NPC of Lease Payment		22,678.5
Risk NPC as % of Lease NPC		7.1%

MES	PSC
RISK ANALYSIS	Risk Scenario: Expected Impact
SWBH NHS Trust	Model Date: 30th October 2014

A	Financial Risk Area B	Risk Driver	Cost Driver C	Value Weights Impact Min D	Value Weights Impact Likely E	Value Weights Impact Max F	Value Impact Min G=D*C	Value Impact Likely H=E*C	Value Impact Max I=F*C	Probabilities Impact Min J	Probabilities Impact Likely K	Probabilities Impact Max L	Expected value when event occurs M	Time From April N	Time To March O	No. Yrs P=O-N	Probability of Event Q	Risk Value R	Risk Retained S	Discount Factor T	NPC of Risk at 3.5% U	NPC of Risk by cat'y V	EAC of Risk W	EAC of Risk by cat'y X
			£000	%	%	%	£000	£000	£000	%	%	%	£000			Yrs	%	£000	%		£000	£000	£000	£000
1	**Design**																							
1.1	Failure to design to the brief	Capital Cost	0	2.0%	10.0%	20.0%	0	0	0	25.0%	50.0%	25.0%	0	2016	2017	1	10.0%	0	100%	0.9335	0		0.00	
1.2	Failure to build to design	Capital Cost	0	2.0%	10.0%	20.0%	0	0	0	25.0%	50.0%	25.0%	0	2016	2017	1	10.0%	0	100%	0.9335	0	0.0	0.00	0.0
2	**Construction & Development**																							
2.1	Incorrect cost and time estimates	Capital Cost	0	2.0%	10.0%	20.0%	0	0	0	25.0%	50.0%	25.0%	0	2016	2017	1	20.0%	0	100%	0.9335	0		0.00	
2.2	Unforeseen ground or site conditions	Capital Cost	0	2.0%	10.0%	20.0%	0	0	0	25.0%	50.0%	25.0%	0	2016	2017	1	10.0%	0	100%	0.9335	0		0.00	
2.3	Delay in gaining access to the site	Capital Cost	0	1.0%	2.5%	5.0%	0	0	0	25.0%	50.0%	25.0%	0	2016	2017	1	10.0%	0	100%	0.9335	0		0.00	
2.4	Responsibility for maintaining on-site security & safety	Capital Cost	0	1.0%	2.5%	5.0%	0	0	0	25.0%	50.0%	25.0%	0	2016	2017	1	20.0%	0	0%	0.9335	0		0.00	
2.5	Third party claims	Capital Cost	0	1.0%	2.5%	5.0%	0	0	0	25.0%	50.0%	25.0%	0	2016	2017	1	10.0%	0	0%	0.9335	0		0.00	
2.6	Compensation events	Capital Cost	0	0.0%	5.0%	15.0%	0	0	0	25.0%	50.0%	25.0%	0	2016	2017	1	10.0%	0	100%	0.9335	0		0.00	
2.7	Delay events	Capital Cost	0	0.0%	5.0%	15.0%	0	0	0	25.0%	50.0%	25.0%	0	2016	2017	1	10.0%	0	100%	0.9335	0		0.00	
2.8	Force Majeure	Capital Cost	0	2.0%	10.0%	50.0%	0	0	0	25.0%	50.0%	25.0%	0	2016	2017	1	0.0%	0	100%	0.9335	0		0.00	
2.9	Termination due to force majeure	Capital Cost	0	2.0%	10.0%	50.0%	0	0	0	25.0%	50.0%	25.0%	0	2016	2017	1	0.0%	0	100%	0.9335	0		0.00	
2.10	Legislative and regulatory change: NHS specific	Capital Cost	0	2.0%	5.0%	10.0%	0	0	0	25.0%	50.0%	25.0%	0	2016	2017	1	10.0%	0	100%	0.9335	0		0.00	
2.11	Legislative and regulatory change: non NHS specific	Capital Cost	0	5.0%	10.0%	15.0%	0	0	0	25.0%	50.0%	25.0%	0	2016	2017	1	10.0%	0	100%	0.9335	0		0.00	
2.12	Contractor or consultant default	Capital Cost	0	1.0%	2.5%	5.0%	0	0	0	25.0%	50.0%	25.0%	0	2016	2017	1	1.0%	0	100%	0.9335	0		0.00	
2.13	Poor project management	Capital Cost	0	2.0%	10.0%	20.0%	0	0	0	25.0%	50.0%	25.0%	0	2016	2017	1	10.0%	0	100%	0.9335	0		0.00	
2.14	Contractor/sub-contractor industrial action	Capital Cost	0	2.0%	10.0%	20.0%	0	0	0	25.0%	50.0%	25.0%	0	2016	2017	1	1.0%	0	50%	0.9335	0		0.00	
2.15	Protester action	Capital Cost	0	2.0%	10.0%	20.0%	0	0	0	25.0%	50.0%	25.0%	0	2016	2017	1	1.0%	0	100%	0.9335	0		0.00	
2.16	Incorrect time and cost estimates for commissioning new build	Commissioning Budget	500	-25.0%	100.0%	300.0%	-125	500	1,500	25.0%	50.0%	25.0%	594	2016	2017	1	20.0%	119	100%	0.9335	111	111.1	10.42	10.4
3	**Availability & Performance**																							
3.1	Latent defects in new build - Capital (Post year 12 after handov	Capital Cost	0	0.0%	5.0%	10.0%	0	0	0	25.0%	50.0%	25.0%	0	2016	2024	8	10.0%	0	100%	6.6415	0		0.00	
3.2	Incorrect Estimate of Lease Payment	Lease Payment	0	-1.0%	5.0%	10.0%	0	0	0	25.0%	50.0%	25.0%	0	2016	2024	8	40.0%	0	100%	6.6415	0		0.00	
3.3	Risk of Availability & Performance Deductions	Lease Payment	0	0.0%	0.0%	0.0%	0	0	0	25.0%	50.0%	25.0%	0	2016	2024	8	50.0%	0	100%	6.6415	0	0.0	0.00	0.0
4	**Operating Cost**																							
4.1	Incorrect estimated cost of providing specific services under th	Hard FM & Lifecycle	1,994	-1.0%	5.0%	10.0%	-20	100	199	25.0%	50.0%	25.0%	95	2016	2024	8	50.0%	47	100%	6.6415	312		29.27	
4.2	Incorrect estimated cost of providing specific services under th	Hard FM & Lifecycle	1,994	-1.0%	5.0%	10.0%	-20	100	199	25.0%	50.0%	25.0%	95	2016	2024	8	50.0%	47	100%	6.6415	312		29.27	
4.3	Incorrect estimated cost of hard FM	Hard FM Costs	1,674	-1.0%	5.0%	10.0%	-17	84	167	25.0%	50.0%	25.0%	80	2016	2024	8	50.0%	40	100%	6.6415	266		24.91	
4.4	Incorrect estimated cost of lifecycle	Average Lifecycle Cost	320	-1.0%	5.0%	10.0%	-3	16	32	25.0%	50.0%	25.0%	15	2016	2024	8	50.0%	8	100%	6.6415	53	943.1	4.98	88.4
5	**Termination**																							
5.1	Termination due to default by the procuring entity			0.0%	0.0%	0.0%	0	0	0	25.0%	50.0%	25.0%	0	2016	2024	8	0.0%	0	100%	6.6415	0		0.00	
5.2	Default by operator leading to step-in by financiers			0.0%	0.0%	0.0%	0	0	0	25.0%	50.0%	25.0%	0	2016	2024	8	0.0%	0	100%	6.6415	0		0.00	
5.3	Termination due to default by the operator			0.0%	0.0%	0.0%	0	0	0	25.0%	50.0%	25.0%	0	2016	2024	8	0.0%	0	100%	6.6415	0	0.0	0.00	0.0
6	**Technology & Obsolesence**																							
6.1	Technological change/obsolescence of FM equipment	Capital Cost FM Equip	14,966	1.0%	5.0%	10.0%	150	748	1,497	25.0%	50.0%	25.0%	786	2016	2024	8	10.0%	79	100%	6.6415	525	524.7	49.20	49.2
7	**Residual**																							
7.1	Land	Residual Land Value	0	0.0%	-25.0%	-50.0%	0	0	0	25.0%	50.0%	25.0%	0	2023	2024	1	10.0%	0	100%	0.7337	0		0.00	
7.2	Equipment	Residual Value of Equipment	-4,894	0.0%	-25.0%	-50.0%	0	1,223	2,447	25.0%	50.0%	25.0%	1,223	2023	2024	1	10.0%	122	100%	0.7337	90	89.5	8.39	8.4
8	**Other**																							
8.1	Control of services provided under the MES agreement	Not in PSC		0.0%	0.0%	0.0%	0	0	0	25.0%	50.0%	25.0%	0	2016	2024	8	5.0%	0	100%	6.6415	0		0.00	
8.2	Management of contract	Not in PSC		0.0%	0.0%	0.0%	0	0	0	25.0%	50.0%	25.0%	0	2016	2024	8	0.0%	0	0%	6.6415	0	0.0	0.00	0.0
													2,887					**462**				**1,668.4**	**156.5**

MES
RISK ANALYSIS
SWBH NHS Trust

MES
Risk Scenario: Expected Impact
Model Date: 30th October 2014

A	Financial Risk Area B	Risk Driver	Cost Driver C	Value Weights Impact Min D	Value Weights Impact Likely E	Value Weights Impact Max F	Value Min Impact G=D*C	Value Likely Impact H=E*C	Value Max Impact I=F*C	Probabilities Impact Min J	Probabilities Impact Likely K	Probabilities Impact Max L	Expected value when event occurs M	Time From April N	Time To March O	No. Yrs P=O-N	Probability of Event Q	Risk Value R	Risk Retained S	Discount Factor T	NPC of Risk at 3.5% U	NPC of Risk by cat'y V	EAC of Risk W	EAC of Risk by cat'y X
			£000	%	%	%	£000	£000	£000	%	%	%	£000			Yrs	%	£000	%		£000	£000	£000	£000
1	**Design**																							
1.1	Failure to design to the brief	Capital Cost	0	2.0%	10.0%	20.0%	0	0	0	25.0%	50.0%	25.0%	0	2016	2017	1	10.0%	0	0%	0.9335	0		0.00	
1.2	Failure to build to design	Capital Cost	0	2.0%	10.0%	20.0%	0	0	0	25.0%	50.0%	25.0%	0	2016	2017	1	10.0%	0	0%	0.9335	0	0.0	0.00	0.0
2	**Construction & Development**																							
2.1	Incorrect cost and time estimates	Capital Cost	0	2.0%	10.0%	20.0%	0	0	0	25.0%	50.0%	25.0%	0	2016	2017	1	25.0%	0	0%	0.9335	0		0.00	
2.2	Unforeseen ground or site conditions	Capital Cost	0	2.0%	10.0%	20.0%	0	0	0	25.0%	50.0%	25.0%	0	2016	2017	1	10.0%	0	0%	0.9335	0		0.00	
2.3	Delay in gaining access to the site	Capital Cost	0	1.0%	2.5%	5.0%	0	0	0	25.0%	50.0%	25.0%	0	2016	2017	1	10.0%	0	100%	0.9335	0		0.00	
2.4	Responsibility for maintaining on-site security & safety	Capital Cost	0	1.0%	2.5%	5.0%	0	0	0	25.0%	50.0%	25.0%	0	2016	2017	1	20.0%	0	0%	0.9335	0		0.00	
2.5	Third party claims	Capital Cost	0	1.0%	2.5%	5.0%	0	0	0	25.0%	50.0%	25.0%	0	2016	2017	1	10.0%	0	0%	0.9335	0		0.00	
2.6	Compensation events	Capital Cost	0	0.0%	5.0%	15.0%	0	0	0	25.0%	50.0%	25.0%	0	2016	2017	1	10.0%	0	100%	0.9335	0		0.00	
2.7	Delay events	Capital Cost	0	0.0%	5.0%	15.0%	0	0	0	25.0%	50.0%	25.0%	0	2016	2017	1	10.0%	0	50%	0.9335	0		0.00	
2.8	Force Majeure	Capital Cost	0	2.0%	10.0%	50.0%	0	0	0	25.0%	50.0%	25.0%	0	2016	2017	1	0.0%	0	50%	0.9335	0		0.00	
2.9	Termination due to force majeure	Capital Cost	0	2.0%	10.0%	50.0%	0	0	0	25.0%	50.0%	25.0%	0	2016	2017	1	0.0%	0	50%	0.9335	0		0.00	
2.10	Legislative and regulatory change: NHS specific	Capital Cost	0	2.0%	5.0%	10.0%	0	0	0	25.0%	50.0%	25.0%	0	2016	2017	1	10.0%	0	100%	0.9335	0		0.00	
2.11	Legislative and regulatory change: non NHS specific	Capital Cost	0	5.0%	10.0%	15.0%	0	0	0	25.0%	50.0%	25.0%	0	2016	2017	1	15.0%	0	0%	0.9335	0		0.00	
2.12	Contractor or consultant default	Capital Cost	0	1.0%	2.5%	5.0%	0	0	0	25.0%	50.0%	25.0%	0	2016	2017	1	1.0%	0	0%	0.9335	0		0.00	
2.13	Poor project management	Capital Cost	0	2.0%	10.0%	20.0%	0	0	0	25.0%	50.0%	25.0%	0	2016	2017	1	10.0%	0	0%	0.9335	0		0.00	
2.14	Contractor/sub-contractor industrial action	Capital Cost	0	2.0%	10.0%	20.0%	0	0	0	25.0%	50.0%	25.0%	0	2016	2017	1	1.0%	0	0%	0.9335	0		0.00	
2.15	Protester action	Capital Cost	0	2.0%	10.0%	20.0%	0	0	0	25.0%	50.0%	25.0%	0	2016	2017	1	1.0%	0	50%	0.9335	0		0.00	
2.16	Incorrect time and cost estimates for commissioning new buil	Commissioning Budget	500	-25.0%	100.0%	300.0%	-125	500	1,500	25.0%	50.0%	25.0%	594	2016	2017	1	20.0%	119	0%	0.9335	0	0.0	0.00	0.0
3	**Availability & Performance**																							
3.1	Latent defects in new build - Capital (Post year 12 after hando	Capital Cost	0	0.0%	5.0%	10.0%	0	0	0	25.0%	50.0%	25.0%	0	2028	2024	-4	10.0%	0	0%	(2.6951)	0		0.00	
3.2	Incorrect Estimate of Lease Payment	Lease Payment	3,557	-2.0%	2.0%	5.0%	-71	71	178	25.0%	50.0%	25.0%	62	2016	2024	8	40.0%	25	100%	6.6415	166		15.57	
3.3	Risk of Availability & Performance Deductions	Lease Payment	3,557	2.0%	-2.0%	-5.0%	71	-71	-178	25.0%	50.0%	25.0%	-62	2016	2024	8	50.0%	-31	100%	6.6415	-206	-39.8	-19.31	-3.7
4	**Operating Cost**																							
4.1	Incorrect estimated cost of providing specific services under th	Hard FM & Lifecycle	-4,894	-1.0%	5.0%	10.0%	49	-245	-489	25.0%	50.0%	25.0%	-232	2016	2024	8	50.0%	-116	0%	6.6415	0		0.00	
4.2	Incorrect estimated cost of providing specific services under th	Hard FM & Lifecycle	-4,894	-1.0%	5.0%	10.0%	49	-245	-489	25.0%	50.0%	25.0%	-232	2016	2024	8	50.0%	-116	0%	6.6415	0		0.00	
4.3	Incorrect estimated cost of hard FM	Hard FM Costs	0	-1.0%	5.0%	10.0%	0	0	0	25.0%	50.0%	25.0%	0	2016	2024	8	50.0%	0	0%	6.6415	0		0.00	
4.4	Incorrect estimated cost of lifecycle	Average Lifecycle Cost	-4,894	-1.0%	5.0%	10.0%	49	-245	-489	25.0%	50.0%	25.0%	-232	2016	2024	8	50.0%	-116	0%	6.6415	0	0.0	0.00	0.0
5	**Termination**																							
5.1	Termination due to default by the procuring entity		3,557	0.0%	0.0%	0.0%	0	0	0	25.0%	50.0%	25.0%	0	2016	2024	8	1.0%	0	100%	6.6415	0		0.00	
5.2	Default by operator leading to step-in by financiers		3,557	0.0%	0.0%	0.0%	0	0	0	25.0%	50.0%	25.0%	0	2016	2024	8	1.0%	0	0%	6.6415	0		0.00	
5.3	Termination due to default by the operator		3,557	0.0%	0.0%	0.0%	0	0	0	25.0%	50.0%	25.0%	0	2016	2024	8	1.0%	0	0%	6.6415	0	0.0	0.00	0.0
6	**Technology & Obsolesence**																							
6.1	Technological change/obsolescence of FM equipment	Capital Cost FM Equip	14,966	1.0%	5.0%	10.0%	150	748	1,497	25.0%	50.0%	25.0%	786	2016	2024	8	10.0%	79	0%	6.6415	0	0.0	0.00	0.0
7	**Residual**																							
7.1	Land	Residual Land Value	0	0.0%	-25.0%	-50.0%	0	0	0	25.0%	50.0%	25.0%	0	2023	2024	1	10.0%	0	100%	0.7337	0		0.00	
7.2	Equipment	Residual Value of Equipment	-4,894	0.0%	-25.0%	-50.0%	0	1,223	2,447	25.0%	50.0%	25.0%	1,223	2023	2024	1	10.0%	122	100%	0.7337	90	89.5	8.39	8.4
8	**Other**																							
8.1	Control of services provided under the MES agreement	Not in PSC	-4,894	0.1%	0.3%	0.6%	-5	-15	-29	25.0%	50.0%	25.0%	-16	2016	2024	8	5.0%	-1	0%		0		0.00	
8.2	Management of contract	Not in PSC	100	0.0%	5.0%	10.0%	0	5	10	25.0%	50.0%	25.0%	5	2016	2024	8	0.0%	0	100%	6.6415	0	0.0	0.00	0.0
													1,895					-35				49.7	4.7

APPENDIX 4B: NON-FINANCIAL APPRAISAL

Sandwell and West Birmingham Hospitals NHS Trust
Midland Metropolitan Hospital Project: Managed Equipment Service OBC

NON-FINANCIAL APPRAISAL
Sep-14

	WEIGHTING			SCORING			
CRITERION	**Rank**	**Score**	**Weight**	**MES**		**PSC**	
				SCORE	WEIGHTED	SCORE	WEIGHTED
High quality equipment appropriate for the delivery of Trust services, contributing to:							
Patient Experience	**1=**	**100**	**22.7%**	**10**	**2.27**	**10**	**2.27**
Clinical Quality	**1=**	**100**	**22.7%**	**10**	**2.27**	**10**	**2.27**
Teaching and Research	**6**	**40**	**9.1%**	**10**	**0.91**	**10**	**0.91**
Management arrangements for service delivery	**3**	**80**	**18.2%**	**9**	**1.64**	**5**	**0.91**
Ease of Implementation	**4=**	**60**	**13.6%**	**7**	**0.95**	**10**	**1.36**
Ease of Equipment Transfer	**4=**	**60**	**13.6%**	**8**	**1.09**	**5**	**0.68**
		440	**100.0%**	**54**	**9.14**	**50**	**8.41**
							8.0%

APPENDIX 5A: MES CONTRACT SCHEDULES

- SCHEDULE 1 DEFINITIONS AND INTERPRETATION
- SCHEDULE 2 COMPLETION DOCUMENTS
- SCHEDULE 3 TRUSTS REQUIREMENTS AND SERVICE LEVEL SPECIFICATIONS
- SCHEDULE 4 MSP UNDERTAKINGS & METHOD STATEMENTS
- SCHEDULE 5 CLINICAL TRIAL PROTOCOL
- SCHEDULE 6 TRUST RESPONSIBILITIES
- SCHEDULE 7 ME
- SCHEDULE 8 THE PROGRAMME
- SCHEDULE 9 PAYMENT MECHANISM &PERFORMANCE MONITORING SYSTEM
- SCHEDULE 10 INVOICING PROCEDURES
- SCHEDULE 11 FINANCIAL MODEL
- SCHEDULE 12 REFINANCING
- SCHEDULE 13 THIRD PARTY CONTRACTS
- SCHEDULE 14 ESTATES INTERFACE
- SCHEDULE 15 INSURANCE REQUIREMENTS
- SCHEDULE 16 TRUST POLICIES
- SCHEDULE 17 CHANGE CONTROL PROCEDURE
- SCHEDULE 18 COMPENSATION ON TERMINATION
- SCHEDULE 19 EXIT & SERVICES TRANSFER ARRANGEMENTS
- SCHEDULE 20 DISPUTE RESOLUTION PROCEDURE
- SCHEDULE 21 PREMISES AND SITES
- SCHEDULE 22 KEY PERSONNEL
- SCHEDULE 23 CONFIDENTIALITY UNDERTAKING
- SCHEDULE 24 SECURITY REQUIREMENTS
- SCHEDULE 25 DISASTER PLAN(S)
- SCHEDULE 26 SUB - CONTRACTORS
- SCHEDULE 27 CONTRACTS SPECIFIED UNDER THE AGREEMENT
- SCHEDULE 28 RECORD PROVISIONS

APPENDIX 6A: FINANCIAL ANALYSIS COMPARED TO CURRENT TRUST PLANS

MMH OBC	All figures in £000												
Capital spend													
Year	**201415**	**201516**	**201617**	**201718**	**201819**	**201920**	**202021**	**202122**	**202223**	**202324**	**202425**	**202526**	**TOTAL**
Total capital spend	-80	-635	-750	-528	-1,015	-248	-890	-80	-70	-350	-88	-740	**-5,473**
Revenue	**201415**	**201516**	**201617**	**201718**	**201819**	**201920**	**202021**	**202122**	**202223**	**202324**	**202425**	**202526**	**TOTAL**
Operating costs	-1,196	-1,196	-1,196	-1,196	-2,770	-3,144	-3,144	-3,144	-3,144	-3,144	-3,144	-3,144	**-29,563**
Depreciation	-11	-78	-153	-215	-343	-379	-491	-502	-512	-547	-547	-547	**-4,326**
PDC dividend	-2	-22	-43	-54	-77	-73	-87	-72	-56	-49	-33	-40	**-609**
TOTAL	**-1,210**	**-1,296**	**-1,392**	**-1,465**	**-3,190**	**-3,595**	**-3,721**	**-3,718**	**-3,713**	**-3,741**	**-3,725**	**-3,731**	**-34,497**
Cash flow	**201415**	**201516**	**201617**	**201718**	**201819**	**201920**	**202021**	**202122**	**202223**	**202324**	**202425**	**202526**	**TOTAL**
Operating activities	-1,196	-1,196	-1,196	-1,196	-2,770	-3,144	-3,144	-3,144	-3,144	-3,144	-3,144	-3,144	**-29,563**
Investing activities	-80	-635	-750	-528	-1,015	-248	-890	-80	-70	-350	-88	-740	**-5,473**
Financing	-2	-22	-43	-54	-77	-73	-87	-72	-56	-49	-33	-40	**-609**
Total	**-1,278**	**-1,853**	**-1,989**	**-1,777**	**-3,862**	**-3,464**	**-4,121**	**-3,296**	**-3,270**	**-3,544**	**-3,265**	**-3,924**	**-35,644**

PSC no loan **All figures in £000**

Capital spend													
Year	**201415**	**201516**	**201617**	**201718**	**201819**	**201920**	**202021**	**202122**	**202223**	**202324**	**202425**	**202526**	**TOTAL**
Total capital spend	-72	-2,885	-1,886	-2,456	-8,103	-248	-890	-72	-1,390	-100	-228	-4,238	**-22,567**
Revenue	**201415**	**201516**	**201617**	**201718**	**201819**	**201920**	**202021**	**202122**	**202223**	**202324**	**202425**	**202526**	**TOTAL**
Operating costs	-1,196	-1,196	-1,758	-1,758	-1,758	-1,758	-1,758	-1,758	-1,758	-1,758	-1,758	-1,758	**-19,975**
Depreciation	-10	-302	-490	-776	-1,597	-1,632	-1,744	-1,744	-1,869	-1,914	-1,914	-1,914	**-15,908**
PDC dividend	-2	-93	-141	-200	-428	-379	-350	-291	-274	-211	-152	-233	**-2,754**
TOTAL	**-1,208**	**-1,590**	**-2,390**	**-2,734**	**-3,783**	**-3,770**	**-3,852**	**-3,794**	**-3,902**	**-3,883**	**-3,824**	**-3,906**	**-38,637**
Cash flow	**201415**	**201516**	**201617**	**201718**	**201819**	**201920**	**202021**	**202122**	**202223**	**202324**	**202425**	**202526**	**TOTAL**
Operating activities	-1,196	-1,196	-1,758	-1,758	-1,758	-1,758	-1,758	-1,758	-1,758	-1,758	-1,758	-1,758	**-19,975**
Investing activities	-72	-2,885	-1,886	-2,456	-8,103	-248	-890	-72	-1,390	-100	-228	-4,238	**-22,567**
Financing	-2	-93	-141	-200	-428	-379	-350	-291	-274	-211	-152	-233	**-2,754**
Total	**-1,270**	**-4,173**	**-3,786**	**-4,414**	**-10,289**	**-2,385**	**-2,998**	**-2,121**	**-3,423**	**-2,069**	**-2,138**	**-6,229**	**-45,296**
Cumulative total (liqu	**-1,270**	**-5,444**	**-9,229**	**-13,643**	**-23,933**	**-26,318**	**-29,316**	**-31,437**	**-34,860**	**-36,929**	**-39,066**	**-45,296**	
Operating expenses	*-404*	*-402*	*-399*	*-398*	*-398*	*-401*	*-413*	*-425*	*-433*	***-442***	***-451***	***-460***	
Days	*-1.1*	*-4.9*	*-8.3*	*-12.4*	*-21.7*	*-23.6*	*-25.6*	*-26.6*	*-29.0*	*-30.1*	*-31.2*	*-35.5*	
Fixed asset value	62	2,645	4,041	5,720	12,227	10,842	9,988	8,315	7,836	6,022	4,335	6,659	
Finance lease creditor	0	0	0	0	0	0	0	0	0	0	0	0	
Net impact on assets	62	2,645	4,041	5,720	12,227	10,842	9,988	8,315	7,836	6,022	4,335	6,659	

PSC with loan **All figures in £000**

Capital spend													
Year	**201415**	**201516**	**201617**	**201718**	**201819**	**201920**	**202021**	**202122**	**202223**	**202324**	**202425**	**202526**	**TOTAL**
Total capital spend	-72	-2,885	-1,886	-2,456	-8,103	-248	-890	-72	-1,390	-100	-228	-4,238	**-22,567**
Revenue	**201415**	**201516**	**201617**	**201718**	**201819**	**201920**	**202021**	**202122**	**202223**	**202324**	**202425**	**202526**	**TOTAL**
Operating costs	-1,196	-1,196	-1,758	-1,758	-1,758	-1,758	-1,758	-1,758	-1,758	-1,758	-1,758	-1,758	**-19,975**
Depreciation	-10	-302	-490	-776	-1,597	-1,632	-1,744	-1,744	-1,869	-1,914	-1,914	-1,914	**-15,908**
Interest payable	-2	-63	-97	-138	-294	-263	-244	-207	-197	-156	-118	-172	**-1,951**
PDC dividend	0	1	1	2	4	7	10	13	15	19	22	20	**114**
TOTAL	**-1,208**	**-1,560**	**-2,345**	**-2,669**	**-3,645**	**-3,646**	**-3,737**	**-3,696**	**-3,809**	**-3,810**	**-3,791**	**-3,845**	**-37,762**
Cash flow	**201415**	**201516**	**201617**	**201718**	**201819**	**201920**	**202021**	**202122**	**202223**	**202324**	**202425**	**202526**	**TOTAL**
Operating activities	-1,196	-1,196	-1,758	-1,758	-1,758	-1,758	-1,758	-1,758	-1,758	-1,758	-1,758	-1,758	**-19,975**
Investing activities	-72	-2,885	-1,886	-2,456	-8,103	-248	-890	-72	-1,390	-100	-228	-4,238	**-22,567**
Financing	63	2,527	1,306	1,590	6,273	-1,573	-998	-1,783	-592	-1,847	-1,694	2,125	**5,396**
Total	**-1,204**	**-1,554**	**-2,339**	**-2,624**	**-3,588**	**-3,579**	**-3,647**	**-3,613**	**-3,740**	**-3,706**	**-3,680**	**-3,871**	**-37,145**
Cumulative total (liqu	**-1,204**	**-2,759**	**-5,097**	**-7,721**	**-11,309**	**-14,888**	**-18,535**	**-22,148**	**-25,888**	**-29,594**	**-33,274**	**-37,145**	
Short term loan liabili	**-296**	**-484**	**-730**	**-1,540**	**-1,565**	**-1,654**	**-1,661**	**-1,800**	**-1,810**	**-1,826**	**-1,961**	**0**	
Cumulative liquidity i	**-1,500**	**-3,243**	**-5,827**	**-9,261**	**-12,874**	**-16,542**	**-20,196**	**-23,948**	**-27,698**	**-31,420**	**-35,235**	**-37,145**	
Operating expenses	*-404*	*-402*	*-399*	*-398*	*-398*	*-401*	*-413*	*-425*	*-433*	***-442***	***-451***	***-460***	
Days	*-1.3*	*-2.9*	*-5.3*	*-8.4*	*-11.6*	*-14.9*	*-17.6*	*-20.3*	*-23.0*	*-25.6*	*-28.1*	*-29.1*	
Fixed asset value	62	2,645	4,041	5,720	12,227	10,842	9,988	8,315	7,836	6,022	4,335	6,659	
Finance lease creditor	-72	-2,661	-4,063	-5,789	-12,352	-11,034	-10,270	-8,681	-8,271	-6,561	-4,963	-7,240	
Net impact on assets	-10	-16	-22	-68	-125	-192	-283	-366	-435	-539	-628	-581	
Loan taken out	72	2,885	1,886	2,456	8,103	248	890	72	1,390	100	228	4,238	0	22,567
Loan repayment perio	10	10	10	10	10	10	10	10	10	10	10	10		
Interest rate	2.38%	2.38%	2.38%	2.38%	2.38%	2.38%	2.38%	2.38%	2.38%	2.38%	2.38%	2.38%		
Loan repayment	7	296	484	730	1540	1565	1654	1661	1800	1810	1826	1961		15,334
Total loan balance	72	2661	4063	5789	12352	11034	10270	8681	8271	6561	4963	7240		
Interest payable	2	63	97	138	294	263	244	207	197	156	118	172		1,951

MES OBC (off balance sheet)	All figures in £000												
Capital spend													
Year	**201415**	**201516**	**201617**	**201718**	**201819**	**201920**	**202021**	**202122**	**202223**	**202324**	**202425**	**202526**	**TOTAL**
Total capital spend	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Revenue	**201415**	**201516**	**201617**	**201718**	**201819**	**201920**	**202021**	**202122**	**202223**	**202324**	**202425**	**202526**	**TOTAL**
Operating costs	-1,207	-1,652	-1,943	-2,323	-3,519	-3,557	-3,695	-3,695	-3,899	-3,968	-3,968	-3,968	**-37,394**
Depreciation	0	0	0	0	0	0	0	0	0	0	0	0	**0**
PDC dividend	0	0	0	0	0	0	0	0	0	0	0	0	**0**
TOTAL	**-1,207**	**-1,652**	**-1,943**	**-2,323**	**-3,519**	**-3,557**	**-3,695**	**-3,695**	**-3,899**	**-3,968**	**-3,968**	**-3,968**	**-37,394**
Cash flow	**201415**	**201516**	**201617**	**201718**	**201819**	**201920**	**202021**	**202122**	**202223**	**202324**	**202425**	**202526**	**TOTAL**
Operating activities	-1,207	-1,652	-1,943	-2,323	-3,519	-3,557	-3,695	-3,695	-3,899	-3,968	-3,968	-3,968	**-37,394**
Investing activities	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Financing	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total	**-1,207**	**-1,652**	**-1,943**	**-2,323**	**-3,519**	**-3,557**	**-3,695**	**-3,695**	**-3,899**	**-3,968**	**-3,968**	**-3,968**	**-37,394**

Variance - off balance sheet (Positive = MES position is more favourable to the Trust than the MMH position)

All figures in £000

Capital spend											
Year	**201415**	**201516**	**201617**	**201718**	**201819**	**201920**	**202021**	**202122**	**202223**	**202324**	**TOTAL**
Variance on capital spend	80	635	750	528	1,015	248	890	80	70	350	**4,645**
Revenue	**201415**	**201516**	**201617**	**201718**	**201819**	**201920**	**202021**	**202122**	**202223**	**202324**	**TOTAL**
Operating costs	-11	-456	-748	-1,127	-749	-413	-551	-551	-754	-824	**-6,184**
Depreciation	11	78	153	215	343	379	491	502	512	547	**3,231**
PDC dividend	2	22	43	54	77	73	87	72	56	49	**535**
TOTAL	**3**	**-357**	**-552**	**-857**	**-329**	**38**	**27**	**23**	**-186**	**-227**	**-2,417**
Cash flow	**201415**	**201516**	**201617**	**201718**	**201819**	**201920**	**202021**	**202122**	**202223**	**202324**	**TOTAL**
Operating activities	-11	-456	-748	-1,127	-749	-413	-551	-551	-754	-824	**-6,184**
Investing activities	80	635	750	528	1,015	248	890	80	70	350	**4,645**
Financing	2	22	43	54	77	73	87	72	56	49	**535**
Total	**71**	**200**	**45**	**-545**	**343**	**-93**	**426**	**-399**	**-628**	**-424**	**-1,004**
Cumulative total (liquidity impact)	**71**	**272**	**317**	**-228**	**115**	**21**	**447**	**49**	**-579**	**-1,004**	
Operating expenses	*-404*	*-402*	*-399*	*-398*	*-398*	*-401*	*-413*	*-425*	*-433*		
Days	*0.1*	*0.2*	*0.3*	*-0.2*	*0.1*	*0.0*	*0.4*	*0.0*	*-0.5*		

MES OBC on balance sheet

Capital spend											
Year	**201415**	**201516**	**201617**	**201718**	**201819**	**201920**	**202021**	**202122**	**202223**	**202324**	**TOTAL**
Total capital spend	-7	-184	-311	-514	-1,056	-1,153	-1,307	-1,394	-1,568	-1,705	**-9,198**
Revenue	**201415**	**201516**	**201617**	**201718**	**201819**	**201920**	**202021**	**202122**	**202223**	**202324**	**TOTAL**
Operating costs	-1,196	-1,296	-1,364	-1,418	-1,657	-1,657	-1,669	-1,669	-1,716	-1,732	**-15,374**
Interest	-4	-172	-269	-391	-807	-747	-719	-631	-615	-531	**-4,887**
Depreciation	-9	-251	-409	-646	-1,331	-1,360	-1,454	-1,454	-1,558	-1,595	**-10,066**
PDC dividend	0	2	6	10	20	27	32	35	34	30	**198**
TOTAL	**-1,209**	**-1,718**	**-2,036**	**-2,445**	**-3,774**	**-3,737**	**-3,809**	**-3,719**	**-3,854**	**-3,828**	**-30,128**
Cash flow	**201415**	**201516**	**201617**	**201718**	**201819**	**201920**	**202021**	**202122**	**202223**	**202324**	**TOTAL**
Operating activities	-1,196	-1,296	-1,364	-1,418	-1,657	-1,657	-1,669	-1,669	-1,716	-1,732	**-15,374**
Investing activities	-7	-184	-311	-514	-1,056	-1,153	-1,307	-1,394	-1,568	-1,705	**-9,198**
Financing	-4	-170	-263	-380	-787	-720	-686	-597	-581	-501	**-4,689**
Total	**-1,207**	**-1,650**	**-1,938**	**-2,312**	**-3,499**	**-3,530**	**-3,662**	**-3,660**	**-3,864**	**-3,938**	**-29,260**

Variance - on balance sheet (Positive = MES position is more favourable to the Trust than the MMH position)

Capital spend											
Year	**201415**	**201516**	**201617**	**201718**	**201819**	**201920**	**202021**	**202122**	**202223**	**202324**	**TOTAL**
Variance on capital spend	73	451	439	14	-41	-906	-417	-1,314	-1,498	-1,355	**-4,553**
Revenue	**201415**	**201516**	**201617**	**201718**	**201819**	**201920**	**202021**	**202122**	**202223**	**202324**	**TOTAL**
Operating costs	0	-100	-168	-222	1,113	1,488	1,475	1,475	1,428	1,412	**7,901**
Interest	-4	-172	-269	-391	-807	-747	-719	-631	-615	-531	**-4,887**
Depreciation	3	-174	-256	-431	-987	-982	-963	-951	-1,046	-1,048	**-6,835**
PDC dividend	2	24	49	64	97	100	119	106	91	80	**733**
TOTAL	**1**	**-422**	**-644**	**-980**	**-584**	**-142**	**-87**	**-1**	**-142**	**-88**	**-3,088**
Cash flow	**201415**	**201516**	**201617**	**201718**	**201819**	**201920**	**202021**	**202122**	**202223**	**202324**	**TOTAL**
Operating activities	0	-100	-168	-222	1,113	1,488	1,475	1,475	1,428	1,412	**7,901**
Investing activities	73	451	439	14	-41	-906	-417	-1,314	-1,498	-1,355	**-4,553**
Financing	-2	-148	-220	-326	-710	-647	-600	-525	-524	-451	**-4,154**
Total	**71**	**203**	**51**	**-535**	**363**	**-66**	**458**	**-364**	**-594**	**-394**	**-806**
Cumulative total	**71**	**274**	**325**	**-209**	**154**	**88**	**546**	**182**	**-412**	**-806**	
Short term capital liabilities recognised i	-7	-184	-311	-514	-1,056	-1,153	-1,307	-1,394	-1,568	-1,705	
Cumulative total (liquidity impact)	**64**	**90**	**15**	**-723**	**-902**	**-1,066**	**-761**	**-1,212**	**-1,979**	**-2,510**	
Operating expenses	*-404*	*-402*	*-399*	*-398*	*-398*	*-401*	*-413*	*-425*	*-433*	*0*	
Days	*0.1*	*0.1*	*0.0*	*-0.7*	*-0.8*	*-1.0*	*-0.7*	*-1.0*	*-1.6*	*0*	

Business cases

Combined impact against affordability (compared to MMH OBC)

Liquidity									
Year	**2014/15**	**2015/16**	**2016/17**	**2017/18**	**2018/19**	**2019/20**	**2020/21**	**2021/22**	**2022/23**
Headroom									
Liquidity days in OBC LTFM	-8.2	-11.3	13.0	47.2	60.3	-6.9	-5.3	-3.9	1.9
Liquidity days required for liquidity risk rating of 3	-7.0	-7.0	-7.0	-7.0	-7.0	-7.0	-7.0	-7.0	-7.0
Liquidity headroom in days	**-1.2**	**-4.3**	**20.0**	**54.2**	**67.3**	**0.1**	**1.7**	**3.1**	**8.9**
Impact of business cases compared to OBC (liquidity days)									
Imaging MES (assuming off balance sheet treatment)	0.0	0.1	0.2	0.3	-0.2	0.1	0.0	0.4	0.0
Imaging Equipment (BTC)									
Electronic Patient Record									
Retained Estate									
Other									
Net impact of business cases compared to OBC	**0.0**	**0.1**	**0.2**	**0.3**	**-0.2**	**0.1**	**0.0**	**0.4**	**0.0**
Revised liquidity days	**-8.2**	**-11.2**	**13.3**	**47.5**	**60.1**	**-6.8**	**-5.3**	**-3.5**	**1.9**
Remaining liquidity headroom in days	**-1.2**	**-4.2**	**20.3**	**54.5**	**67.1**	**0.2**	**1.7**	**3.5**	**8.9**

This does not change a rating of 3 to a 2 or 2 to a 1 in any year of the model

Capital servicing capacity									
Year	**2014/15**	**2015/16**	**2016/17**	**2017/18**	**2018/19**	**2019/20**	**2020/21**	**2021/22**	**2022/23**
Headroom									
Capital servicing requirement (OBC)	-10.6	-10.6	-11.3	-10.6	-126.7	-31.8	-31.7	-32.3	-32.0
Surplus available (OBC)	25.1	26.9	31.5	34.2	45.1	50.4	49.4	49.1	50.2
Capital servicing capacity (OBC)	2.36	2.53	2.79	3.23	0.36	1.59	1.56	1.52	1.57
Capital servicing capacity required for risk rating of 3	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75
Capital servicing capacity headroom (OBC)	**0.61**	**0.78**	**1.04**	**1.48**	**-1.39**	**-0.16**	**-0.19**	**-0.23**	**-0.18**
Impact of business cases compared to OBC (capital servicing requirement)									
Imaging MES (assuming off balance sheet treatment)	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1
Imaging Equipment (BTC)									
Electronic Patient Record									
Retained Estate									
Other									
Net impact of business cases on capital servicing requirement	**0.0**	**0.0**	**0.0**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**
Impact of business cases compared to OBC (surplus available)									
Imaging MES (assuming off balance sheet treatment)	0.0	-0.5	-0.7	-1.1	-0.7	-0.4	-0.6	-0.6	-0.8
Imaging Equipment (BTC)									
Electronic Patient Record									
Retained Estate									
Other									
Net impact of business cases on surplus available	**0.0**	**-0.5**	**-0.7**	**-1.1**	**-0.7**	**-0.4**	**-0.6**	**-0.6**	**-0.8**
Revised capital servicing capacity ratio	**2.36**	**2.49**	**2.73**	**3.14**	**0.35**	**1.58**	**1.55**	**1.50**	**1.55**
Revised capital servicing capacity headroom	**0.61**	**0.74**	**0.98**	**1.39**	**-1.40**	**-0.17**	**-0.20**	**-0.25**	**-0.20**

Note: capital servicing capacity is calculated as (interest + capital repayments + PDC dividend) divided by (EBITDA + interest receivable). So any case will affect both sides of the equation.

This does not change a rating of 3 to a 2 or 2 to a 1 in any year of the model

Business cases

Combined impact against affordability (compared to Summer 2014 IBP)

Liquidity									
Year	**2014/15**	**2015/16**	**2016/17**	**2017/18**	**2018/19**	**2019/20**	**2020/21**	**2021/22**	**2022/23**
Headroom									
Liquidity days in IBP LTFM	-6.1	-8.8	15.6	49.4	63.0	-2.8	-0.7	1.1	7.2
Liquidity days required for liquidity risk rating of 3	-7.0	-7.0	-7.0	-7.0	-7.0	-7.0	-7.0	-7.0	-7.0
Liquidity headroom in days	**0.9**	**-1.8**	**22.6**	**56.4**	**70.0**	**4.2**	**6.3**	**8.1**	**14.2**
Impact of business cases compared to IBP (liquidity days)									
Imaging MES (assuming off balance sheet treatment)	0.0	0.1	0.2	0.3	-0.2	0.1	0.0	0.4	0.0
Imaging Equipment (BTC)									
Electronic Patient Record									
Retained Estate									
Other									
Net impact of business cases compared to IBP	**0.0**	**0.1**	**0.2**	**0.3**	**-0.2**	**0.1**	**0.0**	**0.4**	**0.0**
Revised liquidity days	**-6.1**	**-8.7**	**15.8**	**49.7**	**62.8**	**-2.7**	**-0.7**	**1.5**	**7.3**
Remaining liquidity headroom in days	**0.9**	**-1.7**	**22.8**	**56.7**	**69.8**	**4.3**	**6.3**	**8.5**	**14.3**

This does not change a rating of 3 to a 2 or 2 to a 1 in any year of the model but all headroom is gone in 2019/20

Capital servicing capacity									
Year	**2014/15**	**2015/16**	**2016/17**	**2017/18**	**2018/19**	**2019/20**	**2020/21**	**2021/22**	**2022/23**
Headroom									
Capital servicing requirement (IBP)	-10.1	-10.6	-11.2	-10.5	-126.6	-31.6	-31.4	-32.1	-31.7
Surplus available (IBP)	24.7	26.9	31.4	34.0	45.0	50.2	49.1	48.9	49.9
Capital servicing capacity (IBP)	2.44	2.52	2.80	3.25	0.36	1.59	1.57	1.52	1.57
Capital servicing capacity required for risk rating of 3	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75
Capital servicing capacity headroom (IBP)	**0.69**	**0.77**	**1.05**	**1.50**	**-1.39**	**-0.16**	**-0.18**	**-0.23**	**-0.18**
Impact of business cases compared to IBP (capital servicing requirement)									
Imaging MES (assuming off balance sheet treatment)	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1
Imaging Equipment (BTC)									
Electronic Patient Record									
Retained Estate									
Other									
Net impact of business cases on capital servicing requirement	**0.0**	**0.0**	**0.0**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**
Impact of business cases compared to IBP (surplus available)									
Imaging MES (assuming off balance sheet treatment)	0.0	-0.5	-0.7	-1.1	-0.7	-0.4	-0.6	-0.6	-0.8
Imaging Equipment (BTC)									
Electronic Patient Record									
Retained Estate									
Other									
Net impact of business cases on surplus available	**0.0**	**-0.5**	**-0.7**	**-1.1**	**-0.7**	**-0.4**	**-0.6**	**-0.6**	**-0.8**
Revised capital servicing capacity ratio	**2.44**	**2.49**	**2.74**	**3.16**	**0.35**	**1.58**	**1.55**	**1.51**	**1.55**
Revised capital servicing capacity headroom	**0.69**	**0.74**	**0.99**	**1.41**	**-1.40**	**-0.17**	**-0.20**	**-0.24**	**-0.20**

Note: capital servicing capacity is calculated as (interest + capital repayments + PDC dividend) divided by (EBITDA + interest receivable). So any case will affect both sides of the equation.

This does not change a rating of 3 to a 2 or 2 to a 1 in any year of the model

Business cases

Combined impact against affordability (compared to MMH OBC, MES on balance sheet)

Liquidity									
Year	**2014/15**	**2015/16**	**2016/17**	**2017/18**	**2018/19**	**2019/20**	**2020/21**	**2021/22**	**2022/23**
Headroom									
Liquidity days in OBC LTFM	-8.2	-11.3	13.0	47.2	60.3	-6.9	-5.3	-3.9	1.9
Liquidity days required for liquidity risk rating of 3	-7.0	-7.0	-7.0	-7.0	-7.0	-7.0	-7.0	-7.0	-7.0
Liquidity headroom in days	**-1.2**	**-4.3**	**20.0**	**54.2**	**67.3**	**0.1**	**1.7**	**3.1**	**8.9**
Impact of business cases compared to OBC (liquidity days)									
Imaging MES (assuming on balance sheet treatment)	0.0	0.1	0.1	0.0	-0.7	-0.8	-1.0	-0.7	-1.0
Imaging Equipment (BTC)									
Electronic Patient Record									
Retained Estate									
Other									
Net impact of business cases compared to OBC	**0.0**	**0.1**	**0.1**	**0.0**	**-0.7**	**-0.8**	**-1.0**	**-0.7**	**-1.0**
Revised liquidity days	**-8.2**	**-11.2**	**13.1**	**47.2**	**59.7**	**-7.7**	**-6.2**	**-4.6**	**0.9**
Remaining liquidity headroom in days	**-1.2**	**-4.2**	**20.1**	**54.2**	**66.7**	**-0.7**	**0.8**	**2.4**	**7.9**

This would change a risk rating of 3 to 2 in 2019/10 but there would be no change in rating in any other year.

Capital servicing capacity									
Year	**2014/15**	**2015/16**	**2016/17**	**2017/18**	**2018/19**	**2019/20**	**2020/21**	**2021/22**	**2022/23**
Headroom									
Capital servicing requirement (OBC)	-10.6	-10.6	-11.3	-10.6	-126.7	-31.8	-31.7	-32.3	-32.0
Surplus available (OBC)	25.1	26.9	31.5	34.2	45.1	50.4	49.4	49.1	50.2
Capital servicing capacity (OBC)	2.36	2.53	2.79	3.23	0.36	1.59	1.56	1.52	1.57
Capital servicing capacity required for risk rating of 3	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75
Capital servicing capacity headroom (OBC)	**0.61**	**0.78**	**1.04**	**1.48**	**-1.39**	**-0.16**	**-0.19**	**-0.23**	**-0.18**
Impact of business cases compared to OBC (capital servicing requirement)									
Imaging MES (assuming on balance sheet treatment)	0.1	0.3	0.2	-0.3	-0.8	-1.6	-1.0	-1.8	-2.0
Imaging Equipment (BTC)									
Electronic Patient Record									
Retained Estate									
Other									
Net impact of business cases on capital servicing requirement	**0.1**	**0.3**	**0.2**	**-0.3**	**-0.8**	**-1.6**	**-1.0**	**-1.8**	**-2.0**
Impact of business cases compared to OBC (surplus available)									
Imaging MES (assuming on balance sheet treatment)	0.0	-0.1	-0.2	-0.2	1.1	1.5	1.5	1.5	1.4
Imaging Equipment (BTC)									
Electronic Patient Record									
Retained Estate									
Other									
Net impact of business cases on surplus available	**0.0**	**-0.1**	**-0.2**	**-0.2**	**1.1**	**1.5**	**1.5**	**1.5**	**1.4**
Revised capital servicing capacity ratio	**2.38**	**2.59**	**2.83**	**3.11**	**0.36**	**1.56**	**1.56**	**1.48**	**1.52**
Revised capital servicing capacity headroom	**0.63**	**0.84**	**1.08**	**1.36**	**-1.39**	**-0.19**	**-0.19**	**-0.27**	**-0.23**

Note: capital servicing capacity is calculated as (interest + capital repayments + PDC dividend) divided by (EBITDA + interest receivable). So any case will affect both sides of the equation.

This does not change a rating of 3 to a 2 or 2 to a 1 in any year of the model

Business cases

Combined impact against affordability (compared to Summer 2014 IBP, MES on balance sheet)

Liquidity									
Year	**2014/15**	**2015/16**	**2016/17**	**2017/18**	**2018/19**	**2019/20**	**2020/21**	**2021/22**	**2022/23**
Headroom									
Liquidity days in IBP LTFM	-6.1	-8.8	15.6	49.4	63.0	-2.8	-0.7	1.1	7.2
Liquidity days required for liquidity risk rating of 3	-7.0	-7.0	-7.0	-7.0	-7.0	-7.0	-7.0	-7.0	-7.0
Liquidity headroom in days	**0.9**	**-1.8**	**22.6**	**56.4**	**70.0**	**4.2**	**6.3**	**8.1**	**14.2**
Impact of business cases compared to IBP (liquidity days)									
Imaging MES (assuming on balance sheet treatment)	0.0	0.1	0.1	0.0	-0.7	-0.8	-1.0	-0.7	-1.0
Imaging Equipment (BTC)									
Electronic Patient Record									
Retained Estate									
Other									
Net impact of business cases compared to IBP	**0.0**	**0.1**	**0.1**	**0.0**	**-0.7**	**-0.8**	**-1.0**	**-0.7**	**-1.0**
Revised liquidity days	**-6.1**	**-8.7**	**15.7**	**49.4**	**62.3**	**-3.6**	**-1.7**	**0.4**	**6.2**
Remaining liquidity headroom in days	**0.9**	**-1.7**	**22.7**	**56.4**	**69.3**	**3.4**	**5.3**	**7.4**	**13.2**

This does not change a rating of 3 to a 2 or 2 to a 1 in any year of the model

Capital servicing capacity									
Year	**2014/15**	**2015/16**	**2016/17**	**2017/18**	**2018/19**	**2019/20**	**2020/21**	**2021/22**	**2022/23**
Headroom									
Capital servicing requirement (IBP)	-10.1	-10.6	-11.2	-10.5	-126.6	-31.6	-31.4	-32.1	-31.7
Surplus available (IBP)	24.7	26.9	31.4	34.0	45.0	50.2	49.1	48.9	49.9
Capital servicing capacity (IBP)	2.44	2.52	2.80	3.25	0.36	1.59	1.57	1.52	1.57
Capital servicing capacity required for risk rating of 3	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75
Capital servicing capacity headroom (IBP)	**0.69**	**0.77**	**1.05**	**1.50**	**-1.39**	**-0.16**	**-0.18**	**-0.23**	**-0.18**
Impact of business cases compared to IBP (capital servicing requirement)									
Imaging MES (assuming off balance sheet treatment)	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1
Imaging Equipment (BTC)									
Electronic Patient Record									
Retained Estate									
Other									
Net impact of business cases on capital servicing requirement	**0.0**	**0.0**	**0.0**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**
Impact of business cases compared to IBP (surplus available)									
Imaging MES (assuming off balance sheet treatment)	0.0	-0.5	-0.7	-1.1	-0.7	-0.4	-0.6	-0.6	-0.8
Imaging Equipment (BTC)									
Electronic Patient Record									
Retained Estate									
Other									
Net impact of business cases on surplus available	**0.0**	**-0.5**	**-0.7**	**-1.1**	**-0.7**	**-0.4**	**-0.6**	**-0.6**	**-0.8**
Revised capital servicing capacity ratio	**2.44**	**2.49**	**2.74**	**3.16**	**0.35**	**1.58**	**1.55**	**1.51**	**1.55**
Revised capital servicing capacity headroom	**0.69**	**0.74**	**0.99**	**1.41**	**-1.40**	**-0.17**	**-0.20**	**-0.24**	**-0.20**

Note: capital servicing capacity is calculated as (interest + capital repayments + PDC dividend) divided by (EBITDA + interest receivable). So any case will affect both sides of the equation.

This does not change a rating of 3 to a 2 or 2 to a 1 in any year of the model

APPENDIX 7A: PROJECT TIMETABLE

Status	Key
outstanding	Cath lab
in progress	MES procurement MMH
completed	MMH Proces

	Cath Lab procurement				MES Procurement				MMH Process		
Month	Task	Start date	Completion	Status	Task	Start Date	Completion	Status	Task	Date	Status
	Stage 1 - Pre Tender				Stage 1 Pre Tender				Complete Approvals process	01/06/2014	
Jun-14	Define requirements	01/06/2014			Define Requirements - write OBC	01/06/2014					
	Supplier Engagement				Supplier engagement						
					- Supplier Engagement Meeting						
					- Maintenance Cover (Uptime)(response time)						
					- Equipment replacement programme						
					- Agree ITT Evaluation Criteria						
					- Agree commercial / technical split						
					- Agree Equipment Banding						
					- Specification of Services						
					- Specification for Equipment Replacment						
					- Turnkey Costs (by Trust)				Issue OJEU	30/06/2014	
	Stage 2 - Issue invitation to tender										
Jul-14	Issue Invitation to tender	28/07/2014									
	Bidders site visit										
Aug-14	MMH MES Project Group Meeting	12/08/2014	12/08/2014		MMH MES Project Group Meeting	12/08/2014					
	Cathlab procurement - Complete actions from project group meeting				Preparation for MES Procurement - Complete actions from project group meeting						
Sep-14	Questions from suppliers closes		04/09/2014		Trust Board Approval	04/09/2014			Select 3 bidders	04/09/2014	
	Close of invitation to tender - bid submissions		23/09/2014								
	Stage 3 - Evaluation of Bids								Dialogue with 3 bidders		
	MMH MES Project Group Meeting	24/09/2014	24/09/2014		Review progress on preparation for MES procurement	24/09/2014					
	Review progress of cathlab procurement	24/09/2014			Review of Business Case	24/09/2014					
	Evaluation of Bids	25/09/2014									
	bidder presentations and clarifications, Siemens, Medipass, Philips, Asteral	30/09/2014									
Oct-14	MMH MES Project Group Meeting	03/10/2014	03/10/2014		MMH MES Finance meeting (Martin, Matt, Tony)	03/10/2014	03/10/2014				
	evaluation and moderation meeting 1 (evaluators)	15/10/2014									
	MMH MES Project Group Meeting	20/10/2014	20/10/2014		MMH MES Project Group Meeting - specifications to be carried out for all equipment	20/10/2014	20/10/2014				
	Reduce 5 bidders to 2 and notify bidders	31/10/2014									
					CLE - approval of finances following 3 Oct 2014 meeting and specifications						
					Board approval of OBC	06/11/2014					
Nov-14					MMH MES Project Group Meeting	03/11/2014	03/11/2014				
	MMH MES Project Group Meeting	03/11/2014	03/11/2014		MMH MES Project Group Meeting	19/11/2014	19/11/2014				
	Meeting bidder 1	07/11/2014									
	Meeting bidder 2	07/11/2014									
	reference site vists										
	MMH MES Project Group Meeting	19/11/2014	19/11/2014								
	final bid sumbissions	20/11/2014									
	final bid clarifications	20/11/2014									
	Final bid evaluation	26/11/2014									
	evaluation and moderation meeting 2 (evaluators)	26/11/2014									
	Stage 4 - Award Recommendation Report										
	Recommendation Report	28/11/2014									
Dec-14	MMH MES Project Group Meeting	04/12/2014			MMH MES Project Group Meeting	04/12/0214	04/12/2014				
	Notify successful and unsuccessful bidders and voluntary 10 day standstill period	10/12/2014			TDA Approval	15/12/2014					
	Stage 5 - Contractual meetings and finalisation (fine tuning only)				Stage 2 - Invitation to Tender	16/12/2014					
	Commence contract meetings	11/12/2014			Bidders site Visit						
	MMH MES Project Group Meeting	19/12/2014	19/12/2014		Questions from Suppliers						
	MMH MES Project Group Meeting	30/12/2014	30/12/2014		Evaluation Training						
	Contract Award				MMH MES Project Group Meeting	19/12/2014	19/12/2014				
	Mobilisation Period				MMH MES Project Group Meeting	30/12/2014	30/12/2014				
Jan-15					Stage 3 - Evaluation of Bids	20/01/2015			Select 2 bidders	08/01/2015	
									Diaglogue with 2 bidders		
					Bidders presentations						
					moderation meeting 1						
Feb-15					Reduce 5 bidders to 2	20/02/2015					
					Clarification meeting bidder 1						
					Clarification meeting bidder 2						
					Final bids evaluation						
					Moderation meeting 2						
Mar-15					Stage 4 - Award recommendation report	19/03/2015					
					10 day standstill period						
Apr-15					Stage 5 - Contractual Meetings and Finalisation	07/04/2015			MES preferred bidder and MMH bidders have dialogue	02/04/2015	
					FBC Approval by Trust Board and TDA	07/05/2015	31/05/2015				
					Contract award	30/06/2015					
					Mobilisation period						

APPENDIX 10d – EQUIPMENT RESPONSIBILITY MATRIX

EQUIPMENT RESPONSIBILITY MATRIX

Category	Group	Type	Responsibility						
			Initial Procurement	**Transfer**	**Beneficial Access**	**Install**	**Commissioning (including critical inspection if appropriate)**	**Maintain**	**Life-cycle**
A1	1	Equipment, fixtures and fitting as part of Construction Contract	Project Co	N/A	N/A	Project Co	Project Co	Project Co	Project Co
A2	1	Equipment as part of Construction Contract, to which Trust has selection rights	Project Co	N/A	N/A	Project Co	Project Co	Project Co	Project Co
B2	3	Curtains	Trust	N/A	N/A	Trust	Trust	Trust	Trust
C1	2	Design Related Furniture & Furnishings	Trust	Trust	Required	Project Co/Trust	Trust	Trust	Trust
C2	2	Fixed Furniture & Furnishings	Trust	Trust	N/A	Project Co	Trust	Trust	Trust
C3	3	Moveable Furniture & Furnishings	Trust	Trust	N/A	Trust	N/A	Trust	Trust
D1	2	Design Related IT & Telecommunications Equipment	Trust	Trust	Required	Project Co/Trust	Trust	Trust	Trust

Category	Group	Type	Responsibility						
			Initial Procurement	Transfer	Beneficial Access	Install	Commissioning (including critical inspection if appropriate)	Maintain	Life-cycle
D2	2	Fixed IT & Telecommunications Equipment	Trust	Trust	N/A	Project Co	Trust	Trust	Trust
D3	3	Moveable IT & Telecommunications Equipment	Trust	Trust	N/A	Trust	Trust	Trust	Trust
E1	2	Design-related Medical & Laboratory Equipment	Trust	Trust	Required	Project Co/Trust	Trust	Trust	Trust
E2	2	Fixable Medical & Laboratory Equipment	Trust	Trust	N/A	Project Co	Trust	Trust	Trust
E3	3	Moveable Medical & Laboratory Equipment	Trust	Trust	N/A	Trust	Trust	Trust	Trust
F1	2	Design-related Non-Medical Equipment	Trust	Trust	Required	Project Co/Trust	Trust	Trust	Trust
F2	2	Fixable Non-Medical Equipment	Trust	Trust	N/A	Project Co	Trust	Trust	Trust
F3	3	Moveable Non-Medical Equipment	Trust	Trust	N/A	Trust	Trust	Trust	Trust

Category	Group	Type	Responsibility						
			Initial Procurement	**Transfer**	**Beneficial Access**	**Install**	**Commissioning (including critical inspection if appropriate)**	**Maintain**	**Life-cycle**
L1	2	Design-Related Artwork & Memorabilia required by Planning Permission	Trust	N/A	Required	Project Co/Trust	N/A	Project Co	N/A
L2	3	Other Artwork & Memorabilia	Trust	Trust	N/A	Project Co	N/A	N/A	Trust
P1	2	Design Related Imaging Equipment Supplied via Managed Equipment Service	MES	MES	Required	Project Co/MES	MES/Trust	MES	MES
P3	3	Movable Imaging Equipment Supplied via Managed Equipment Service	MES	MES	N/A	MES	MES/Trust	MES	MES

EQUIPMENT RESPONSIBILITY CATEGORIES

Category	Definition
A1 (Equipment, fixtures and fittings as part of Construction Contract)	Includes Group 1 Equipment, fixtures and fittings, to be included within the building construction cost (integral to the building and engineering installations)
A2 (Equipment as part of Construction Contract, to which Trust has selection rights)	Includes Group 1 Equipment, fixtures and fittings to which the Trust does require input into the specification & functionality, to be included within the building construction cost (integral to the building and engineering installations) Supply, Installation, commissioning and replacement shall be in accordance with the provisions of this Schedule 13 and Trust's Construction Requirements. Project Co shall repair and maintain the Category A2 Equipment in accordance with the agreed lifecycle strategy for the Trust and to the agreed standards reflecting the "fit for purpose" requirements of the equipment. Trust supplied Equipment will be required to integrate to Equipment in this category and Project Co will facilitate this. Examples: theatre operating lights, ITU pendant systems etc.
B2 (Curtains)	Trust supplied curtains, integrated with the building design. Tracks/Rails to be supplied and maintained by Project Co.
C1, D1, E1, F1, L1 & P1 (Design Related Furniture & Finishing's, IT & Telecommunications Equipment, Medical & Laboratory Equipment, Non-Medical Equipment, Artwork & Memorabilia and Imaging Equipment)	Includes Group 2 design related furniture & finishing's, IT/Telecoms equipment, Medical & Laboratory Equipment, Non-Medical Equipment, Artwork & Memorabillia and Imaging Equipment (MES), supplied and funded by the Trust to be integrated with the building design and services in accordance with the provisions of this Schedule 13 and the Trust's Construction Requirements. The Trust shall repair and maintain these Categories of Equipment in accordance with the agreed lifecycle strategy for the Trust and to the agreed standards reflecting the "fit for purpose" requirements of the Equipment. Examples: Wall mounted foldaway table, lecture theatre seating, telephone switchboard, Laminar Flow Cabinet, ceiling mounted microscope, catering servery, large metal/stone sculpture, etc.
C2, D2, E2, F2 & L2 (Fixed Furniture & Finishing's, IT & Telecommunications Equipment, Medical & Laboratory Equipment, Non-Medical Equipment and Artwork & Memorabillia)	Includes Group 2 fixed furniture & finishing's, IT/Telecoms equipment, Medical & Laboratory Equipment, Non-Medical Equipment and Artwork & Memorabillia which will be delivered to Project Co for fixing in the new build. This category includes items currently fixed to the current hospital which will be transferred to the new facilities. Installation, and agreed commissioning period shall be in accordance with the provisions of this Schedule 13 and the Trust's and Construction Requirements up to the formal handover of the Facilities. Thereafter Equipment shall revert back to Trust

Category	Definition
	management. There shall be no replacement requirements within this Agreement. Examples: Wall mounted patient monitor bracket, LCD projector bracket, wall mounted telephone, wall mounted auriscope/ophthalmoscope unit, paper towel dispenser etc.
C3, D3, E3 & F3 (Moveable Furniture & Finishing's, IT/Telecoms equipment, Medical & Laboratory Equipment & Non-Medical Equipment)	Includes Group 3, non-fixed equipment supplied by the Trust. This category will include new and transferred loose equipment from the existing hospitals. Examples: Non Invasive Blood Pressure Monitor on roll stand, Office Desk, PC, Centrifuge, Workshop test & measurement equipment, filing cabinet, floor buffer, catering supplies trolley, catering regeneration trolley etc.
P1 (Design Related Imaging Equipment Supplied as part of a Managed Equipment Service)	Includes all fixed Imaging equipment provided as part of an MES agreement between the Trust and its chosen provider. This category of equipment should be treated as any other item of design related equipment. Examples: Biplane Cath lab, CT Scanner, DR X-Ray room.
P3 (Movable Equipment Imaging Equipment Supplied as part of a Managed Equipment Service)	Includes all movable Imaging equipment provided as part of an MES agreement between the Trust and its chosen provider. This category of equipment should be treated as any other item of movable equipment Examples: Ultrasound Scanner, Mobile Image Intensifier.

NB: Equipment schedule is indicative only and items will be added & removed during design development

APPENDIX 10e – VfM CASE FOR AUTOMATED GUIDED VEHICLES

VALUE FOR MONEY OF AUTOMATED GUIDED VEHICLES IN THE MIDLAND METROPOLITAN HOSPITAL (MMH) PFI SCHEME

TRUST BOARD 17 JULY 2015

1. Purpose

This paper seeks the Trust Board's approval to include the provision of Automated Guided Vehicles (AGVs) in the MMH PFI scheme on the basis that they represent Value for Money and will make a net saving.

2. Overview

A report was provided to the MMH and Reconfiguration Committee 12 May 2015 to test the Value for Money (VfM) of including AGVs in the MMH PFI scheme. The Committee supported the principle of AGVs but requested that further work be undertaken to ensure that the case is underpinned by robust financial benefits.

It is essential that any productivity benefits of AGVs are fully exploited in order to contribute to the Trust's reduction of operating costs.

3. Key assumptions

The financial assessment is based upon the following assumptions:

3.1. Existing costs

3.1.1. 56.8 wte (at a cost of £1.256m per annum) currently provide services which in part could potentially be fulfilled by AGVs.

3.1.2. It will not be possible to make further cost reductions to this scope of services beyond 2016/17 without compromising / reducing the scope of services provided. Therefore, additional cost reductions would need to be borne within other budgets.

3.2. AGV costs

3.2.1. 9 AGVs would be required to service MMH.

3.2.2. The AGVs would be funded through the Unitary Payment to Carillion over the 30 year concession period of the MMH contract, with a consequent increase of £277K per annum.

3.2.3. Swisslog has estimated that the lifecycle, maintenance and utilities costs associated with 9 AGVs are: £18K, £82K and £25K respectively.

3.2.4. Only 29 wte of the extant 56.8 wte (at an estimated cost of £672K per annum) would be required to work alongside AGVs.

3.2.5. The cost of AGVs (excluding the 29 wte enduring staff requirement) is estimated at £460K pa.

3.2.6. AGVs will be operational in October 2018 when MMH is due to open.

4. Value for Money (VfM) Assessment

A Net Present Value analysis over the 30 year concession period demonstrates that the AGV solution would be 7% better VfM than the current model as shown at Table 1.

Table 1

Cost Comparison	**First Full Year (19/20)**
Traditional Approach	**1,185,603**
AVG Delivery Staffing	671,840
UP Impact (9 AVGs) - Cash	277,000
Lifecycle Fund	18,000
Maintenance Costs	75,000
Utilities Cost	25,000
Total AVG Solution	**1,066,840**
Impact Per Annum (first full year) £'s	118,762
Impact over 30 Years (£000's)	(2,534)

VfM Summary (15/16 = Year 1)	**30 Years**	**Discounted**
	£000's	**£000's**
Total Traditional Approach	34,897	22,152
Total AVG Costs	32,363	20,652
Total Movement in Costs	(2,534)	(1,500)

5. Contribution to cost savings

The cost savings allocated to the 56.8 wte currently employed is £303K by 2019/20, reducing the budget to £1,016K by that point as demonstrated at Table 2. This level of savings will not be possible given the minimum staffing requirement.

Table 2

	AGV LTFM Position and CIP Apportionment							
		2015/16				**2019/20**		
		Pay	**Non Pay**	**Total**		**Pay**	**Non Pay**	**Total**
1)	**Facilities Sub Directorate LTFM Resources**	**17,197,880**	**6,139,394**	**23,337,274**		**15,381,994**	**5,924,365**	**21,306,359**
	CIP Share (Cumulative)	(1,023,508)	(375,133)	(1,398,641)		(3,610,827)	(1,289,013)	(4,899,840)
	CIP %	-6.0%	-6.1%	-6.0%		-23.5%	-21.8%	-23.0%
2)	**Other Direct Departments Relevant Resources:**							
	- Sterile Services	110,725	0	110,725		110,725	0	110,725
	- Ward Staff	202,166	0	202,166		202,166	0	202,166
	- Theatre Staff	82,940	0	82,940		82,940	0	82,940
	- Tissue Viability	41,470	0	41,470		41,470	0	41,470
	Total Other Depts	**437,301**	**0**	**437,301**		**437,301**	**0**	**437,301**
	CIP Share (Cumulative)	(26,025)		(26,025)		(102,654)	0	(102,654)
	CIP %	-6.0%	0.0%	-6.0%		-23.5%	0.0%	-23.5%
	Total Resources	**17,635,181**	**6,139,394**	**23,774,575**		**15,819,295**	**5,924,365**	**21,743,660**
	Total CIP Share	**(1,049,533)**	**(375,133)**	**(1,424,667)**		**(3,713,481)**	**(1,289,013)**	**(5,002,494)**
	Net Resources Available	**16,585,648**	**5,764,261**	**22,349,908**		**12,105,814**	**4,635,352**	**16,741,166**
	Of Which							
	AGV Related Costs (After CIP)	1,319,708	0	1,319,708		1,319,708	0	1,319,708
	CIP Share (Cumulative)	-	-	-		(303,494)	0	(303,494)
	Net Resources After CIP	**1,319,708**	**0**	**1,319,708**		**1,016,213**	**0**	**1,016,213**

Planned savings in 2015/16 and 2016/17 will deliver cost reductions of £157K (£63.7K in 15/16 plus £70.4K in 16/17). The introduction of AGVs will provide a further saving of £53K (after taking into account the full cost of the AGV service) towards the requirement of £303K, leaving £116K to be found from other budgets in 2019/20 (see Table 3 below).

A full savings plan for the Facilities Sub-Directorate, covering the years 2015/16 to 2019/20, is included in Appendix A.

Table 3

Summary Financial & WTE Consequences of Traditional Provision v AGV Provision (Affortability, shown net of AVG costs)

				Traditional Provision		AGV Provision	
		Baseline Position		Baseline Position		Baseline Position	
Group/Directorate	Department	Fin Yr: 2015-2016		Fin Yr: 2019-2020		Fin Yr: 2019-2020	
		Wte	£000's	Wte	£000's	Wte	£000's
Corporate/Facilities & Corp Nursing	Catering	9.8	237.0	8.8	212.9		
Corporate/Facilities & Corp Nursing	PEAT	2.0	41.5	2.0	41.5		
Corporate/Facilities & Corp Nursing	Linen and Waste	17.6	406.3	15.6	360.0		
Corporate/Facilities & Corp Nursing	BTC, Medical Gasses	2.2	52.5	2.2	52.5		
Corporate/Facilities & Corp Nursing	MMH Related			-	-	24.2	559.9
Corporate/Facilities & Corp Nursing	Retained Estate			-	-	4.8	112.0
Corporate/Facilities & Corp Nursing	AGV Non Pay Implications (Trust)						100.0
Corporate/Facilities & Corp Nursing	Unitary Charge Implications						247.1
Corporate/Facilities & Corp Nursing	Capital Charges						113.3
Corporate/Finance	Supplies	7.0	145.1	7.0	145.1		
Surgery A	Sterile Services	5.3	110.7	5.3	110.7		
Corporate Nursing	Tissue Viability	2.0	41.5	2.0	41.5		
Various	Ward Staffing	9.8	202.2	9.8	202.2		
Surgery	Theatres	4.0	82.9	4.0	82.9		
CIP Allocation		(2.9)	(63.7)	(2.9)	(63.7)		
Baseline Quantum Available		**56.8**	**1,256.0**	**53.8**	**1,185.6**	**29.0**	**1,132.3**
Movement to Baseline in 15/16				**(3.00)**	**(70.4)**	**(27.8)**	**(123.7)**
Traditional Approach in 19/20 v AGV Approach						**(24.8)**	**(53.3)**
LTFM Suggested Resource			1,256.0		1,016.2		1,016.2
Variance to LTFM Target			**-**		***169.4***		***116.1***

6. Conclusion

The introduction of AGVs is 7% better VfM than the current model.

After taking into account the full cost of the AGV service, AGVs would contribute £53K towards the full CIP allocation to Facilities of £303K in 2019/20.

7. Next steps

The Trust Board is asked to support the addition of AGVs to the scope of MMH.

APPENDIX A: FACILITIES CIP BY DEPARTMENT FOR 2015/16 TO 2019/20 (£000'S)

	Admin/PEAT/Other			Car Parking & Security			Catering			Hotel Services			Laundry & Linen			Portering			Transport			Total Resources Available			
	Pay	N Pay	Inc	Pay	N Pay	Inc	Pay	N Pay	Inc	Pay	N Pay	Inc	Pay	N Pay	Inc	Pay	N Pay	Inc	Pay	N Pay	Inc	Pay	N Pay	Total Exp	Income
2015/16 Resources Available (Budget as at M3, before 15/16 CIP)	**649**	**846**	**(1)**	**1,344**	**204**	**(2,159)**	**1,762**	**2,087**	**(1,680)**	**8,746**	**620**	**(532)**	**73**	**942**	**(2)**	**2,039**	**17**	**0**	**3,077**	**1,398**	**(2,313)**	**17,691**	**6,114**	**23,805**	**(6,686)**
2015/16 CIP:																									
- Workforce Review							(145)			(797)									(109)			(1,051)		**(1,051)**	
- Sickness Management	(3)			(8)			(10)			(48)			0			(12)			(19)			(100)		**(100)**	
- Staff Car Parking Charges						(26)																		**0**	(26)
- Re-Alignment of Flexible PEAT budget- Patient Environment Action Team		(150)																					(150)	**(150)**	
- Changing from clear to black waste bags.											(20)												(20)	**(20)**	
- Changing to a rented uni-sex gown instead of trust owned nightwear														(26)									(26)	**(26)**	
- Review of cultural meal provision.								(26)															(26)	**(26)**	
Resources Available After 15/16 CIP	**646**	**696**	**(1)**	**1,336**	**204**	**(2,185)**	**1,607**	**2,061**	**(1,680)**	**7,902**	**600**	**(532)**	**73**	**916**	**(2)**	**2,027**	**17**	**0**	**2,949**	**1,398**	**(2,313)**	**16,540**	**5,892**	**22,432**	**(6,712)**
2016/17 CIP:																									
- Workforce Review	(6)			(11)			(15)			(74)			(1)			(17)			(26)			(150)		**(150)**	
- Sickness Management	(2)			(4)			(5)			(24)			0			(6)			(9)			(50)		**(50)**	
- Staff Car Parking Charges FYE of 15/16 scheme						(9)																		**0**	(9)
- Re-Alignment of Flexible PEAT budget- Patient Environment Action Team FYE		(9)																					(9)	**(9)**	
- Review of cultural meal provision FYE of 15/16 scheme.								(4)															(4)	**(4)**	
- Develop Trust wide distribution service by merging the number of departments.																(50)			(70)			(120)		**(120)**	
- Review of Facilities Management structure/integration/reconfiguration	(21)			(4)			(5)			(5)			0			(6)			(9)			(50)		**(50)**	
- Develop a centralised administration	(60)																					(60)		**(60)**	
- Dissolve Ward equipment budget		(40)																				0	(40)	**(40)**	
- Bulk purchasing of consumbles/procurement		(10)			(3)			(39)			(10)			(15)			0			(23)			(100)	**(100)**	
- Review of General Transport service (VfM)																			(120)	(30)		(120)	(30)	**(150)**	
- Review of Security Service (VfM)				(60)																		(60)		**(60)**	
- Review of Cook Chill Service (VfM)							(50)	(50)														(50)	(50)	**(100)**	
- Review opportunites for shared services with local Trusts eg Transport																			(100)			(100)		**(100)**	
Resources Available After 16/17 CIP	**557**	**637**	**(1)**	**1,257**	**201**	**(2,194)**	**1,532**	**1,968**	**(1,680)**	**7,799**	**590**	**(532)**	**72**	**901**	**(2)**	**1,948**	**17**	**0**	**2,615**	**1,345**	**(2,313)**	**15,780**	**5,659**	**21,440**	**(6,721)**
2017/18 CIP:																									
- Workforce Review				(40)			(40)			(20)												(100)		**(100)**	
- Staff Car Parking Charges						(50)																		**0**	(50)
- Develop Trust wide distribution service by merging the number of departments.																(25)			(25)			(50)		**(50)**	
- Review of Facilities Management structire/integration/reconfiguration	(50)																					(50)		**(50)**	
- Bulk purchasing of consumbles/procurement		(38)			(40)			(20)			(15)			(20)						(27)			(160)	**(160)**	
- Review opportunites for shared services with local Trusts eg Transport																			(50)			(50)		**(50)**	
- Further review of Hotel Service (Domestic Service)										(500)												(500)		**(500)**	
- Further review Portering																(100)						(100)		**(100)**	
Resources Available After 17/18 CIP	**507**	**599**	**(1)**	**1,217**	**161**	**(2,244)**	**1,492**	**1,948**	**(1,680)**	**7,279**	**575**	**(532)**	**72**	**881**	**(2)**	**1,823**	**17**	**0**	**2,540**	**1,318**	**(2,313)**	**14,930**	**5,499**	**20,430**	**(6,771)**
2018/19 CIP:																									
- Tranformational Change delivered by RCRH	(28)	(48)					(342)	(9)		(554)	(50)		(6)	(44)					(5)	(4)		(936)	(154)	**(1,090)**	
- Workforce Review	(10)			(50)			(35)			(133)			(1)			(31)			(50)			(310)		**(310)**	
- Develop Trust wide distribution service by merging the number of departments.																(25)			(25)			(50)		**(50)**	
- Review of Facilities Management structire/integration/reconfiguration	(50)																					(50)		**(50)**	
- Bulk purchasing of consumbles/procurement		(50)			(8)			(50)			(15)			(26)			0			(35)			(184)	**(184)**	
- Review opportunites for shared services with local Trusts eg Transport																			(50)			(50)		**(50)**	
- Further review of Hotel Service (Domestic Service)										(200)	(30)											(200)	(30)	**(230)**	
- Introduction of AGV's - 50% in 18/19, then balance to full year in 19/20																(27)						(27)		**(27)**	
Resources Available After 18/19 CIP	**419**	**502**	**(1)**	**1,167**	**153**	**(2,244)**	**1,115**	**1,889**	**(1,680)**	**6,392**	**480**	**(532)**	**65**	**811**	**(2)**	**1,740**	**17**	**0**	**2,410**	**1,279**	**(2,313)**	**13,308**	**5,131**	**18,439**	**(6,771)**
2019/20 CIP:																									
- Tranformational Change delivered by RCRH	(23)	(21)		(107)	(30)					(724)	(67)		(2)	(24)					(9)	(4)		(865)	(146)	**(1,011)**	
- Workforce Review	(9)			(28)			(26)			(129)			(1)			(30)			(45)			(268)		**(268)**	
- Staff Car Parking Charges						(50)																		**0**	(50)
- Develop Trust wide distribution service by merging the number of departments.																(25)			(25)			(50)		**(50)**	
- Bulk purchasing of consumbles/procurement		(40)			(3)			(44)			(29)			(20)			(1)			(29)			(166)	**(166)**	
- Review opportunites for shared services with local Trusts eg Transport																			(50)			(50)		**(50)**	
- Further review of Hotel Service (Domestic Service)										(200)												(200)		**(200)**	
- Introduction of AGV's - 50% in 18/19, then balance to full year in 19/20																(27)						(27)		**(27)**	
Resources Available After 19/20 CIP	**387**	**441**	**(1)**	**1,032**	**121**	**(2,294)**	**1,089**	**1,845**	**(1,680)**	**5,338**	**384**	**(532)**	**62**	**768**	**(2)**	**1,658**	**16**	**0**	**2,281**	**1,245**	**(2,313)**	**11,848**	**4,819**	**16,667**	**(6,821)**
2019/20 Resources as a Percentage of 2015/16 Base Resource	**60%**	**52%**	**100%**	**77%**	**59%**	**106%**	**62%**	**88%**	**100%**	**61%**	**62%**	**100%**	**86%**	**81%**	**100%**	**81%**	**94%**	**0%**	**74%**	**89%**	**100%**	**67%**	**79%**	**70%**	**102%**